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ABSTRACT

In order to determine the nature and prevalence of learning deficiencies among adult inmates in U.S. correctional institutions, a sample of subjects was drawn from three institutions in each of the states of Louisiana, Pennsylvania, and Washington. One male maximum security, one male medium security, and one women's prison were selected in each of the three states. Subjects were administered an academic achievement test and an individual intelligence test. Those scoring at or below the fifth-grade level on one of the subtests were deemed to be "learning deficient" and administered a learning disabilities screening test. Subjects with a full-scale IQ of less than 75 were given an adaptive behavior checklist. Data were collected on demographic, family, educational, and criminal justice variables. Findings indicated that the average inmate left school after 10th grade but was performing more than 3 years below this level. At least 42 percent of inmates have some form of learning deficiency, and, of those, 82 percent had indications of specific learning disabilities, especially in the area of auditory and visual discrimination. A substantial number of those identified as learning deficient had been identified previously but little appears to have been done to intervene. It was further found that 70 percent came from unstable home environments and many indicated childhood problems including drug and alcohol abuse and delinquency. Half had no regular employment prior to incarceration. When the relationship between the variables was explored, the most consistent predictor of achievement and measured ability was the highest grade completed. When the analyses were done for the learning deficient versus non-learning deficient sample, ethnic group was the most consistent in explaining the variance. A number of policy recommendations were made as a result of the study. (Author/KC)

THE NATURE AND PREVALENCE OF LEARNING DEFICIENCIES AMONG ADULT INMATES

by

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THE NATURE AND PREVALENCE OF LEARNING DEFICIENCIES AMONG ADULT INMATES

A study conducted by Lehigh University for the National Institute of Justice, U.S. Department of Justice.

ABSTRACT

In order to determine the nature and prevalence of learning deficiencies among adult inmates, a sample of subjects was drawn from three institutions in each of the states of Louisiana, Pennsylvania and Washington. One women's prison was selected in each of the three states. Subjects were administered an academic achievement test and an individual intelligence test. Those scoring at or below the fifth grade level on one of the subtests were deemed to be "learning deficient" (LDf) and administered a learning disabilities screening test. Subjects with a Full Scale IQ of less than 75 were given an adaptive behavior checklist. Data were collected on demographic, family, educational and criminal justice variables.

Findings indicated that the average inmate left school after tenth grade but was performing more than thre years below this level. At least 42% of inmates have some form of learning deficiency and, of those, 82% had indications of specific learning disabilities (LD), especially in the area of auditory and visual discrimination. The average IQ of inmates sampled was one standard deviation below national norms and learning deficient inmates were dramatically lower than non-learning deficient. A substantial number of those identified as learning deficient had been identified previously but little appears to have been done to intervene in the process.

It was further found that a large percentage (70%) came from unstable home environments and many indicated childhood problems including drug and alcohol abuse and delinquency. Most of the sample had a poor employment

history prior to incarceration with 50% having no regular employment. Violent crime increased the longer the subject was in contact with the criminal justice system.

When the relationships between the variables were explored, the most consistent predictor of achievement and measured ability was the highest grade completed. When the analyses were done for the learning deficient versus non-learning deficient sample, ethnic group was the most consistent in explaining the variance.

CHAPTER I

INTRODUCTION

For more than a decade, there has been an increasing awareness that the educational levels among adult offenders incarcerated in the nation's correctional institutions are significantly lower than those of the general population. Successive studies have noted that functional illiteracy in this population is substantially higher than national norms (Bell, Conard, Laffey, Lutz, Miller, Simon, Stakelon, & Wilson, 1979; Dell'Apa, 1973; Education Commission of the States, (ECS), 1976; Feldman, 1974; General Accounting Office (GAO), 1980; Kilty, 1977; Nagel, 1976; Reagen, Stoughton, Smith, & Davies, 1973; Roberts, 1971):

* Only 36% of inmates in state correctional institutions have completed high school (United States Department of Justice, 1979).
* Approximately 5% of inmates at federal, state, and county levels have not attended school beyond the third grade (Kilty, 1977).
* On the average, inmates in federal and state prisons have completed 9 years in school but function 2 to 3 years below their attained grade level (GAO, 1980).
* Approximately 85% of inmates have dropped out of school before 16 years of age (Roberts, 1971).

The above figures clearly indicate that adult inmates have significant educational deficiencies. In spite of this fact, the majority of the incarcerated population does not participate in prison education programs. A United States Department of Justice survey (1979) indicated that nearly 30% of those inmates who were enrolled in correctional education programs failed to complete a single grade of schooling during their incarceration. Bell et

al. (1979) found that only 30% of those inmates who could potentially benefit from educational programs in the institutions were enrolled in such programs, despite the obvious and particular need for basic academic and vocational education.

As a result of such evidence researchers have begun to turn their attentions toward the educational programs in prisons. To date, although inmate education has been investigated from fiscal, organizational, and administrative perspectives (Ayers, 1975; Bell et al., 1979; ECS, 1976; GAO, 1980; Thompson, 1979), little research exists regarding the background and demographic characteristics of inmates and their possible relationships to the nature and prevalence of specific types of learning deficiencies and educational attainment.

Although no research has been done in these areas with incarcerated adults, some research has been done to investigate these issues among juvenile delinquents. The results of these studies indicate, for example, that the ratio of perceptual disorders among delinquents is disproportionately high (Murray, 1976), that school failure among delinquents is closely associated with low socioeconomic status (SES) (Gold, 1978), that a majority of adjudicated delinquents are from lower SES homes (Berry, 1971; Chilton, Simpson, 1972; Wax, 1972) and that speech disorders are found in delinquents twelve times more frequently than in normal populations (Gagne, 1977). Such findings, coupled with the fact that many incarcerated adults are products of the juvenile justice system, suggest that similar problems may exist among the adult inmate population.

In April 1981, Lehigh University was awarded a contract by the National Institute of Justice, United States Department of Justice, to address cer-

tain issues relating to the area of learning deficiencies among adult inmates. The stipulations of the contract required Lehigh to address the following four issues:

1. The nature and prevalence of learning deficiencies among adult inmates in state prisons.
2. The relationship between educational attainment and such deficiencies.
3. The background, demographic, and criminal justice data on the learning deficient inmates.
4. The comparability of these characteristics for the learning deficient inmates with both the non-learning deficient inmates and the general population.

Prior to the actual data collection, relevant literature and prior research in the broad area of learning deficiencies among incarcerated populations were reviewed. Due to the lack of literature specifically relating to adult inmates, the major emphasis of this review was on research which has been done with delinquents. A synthesis of this literature is presented in Chapter II of this document.

In the process of addressing the issues, and the concomitant research questions, data were gathered over a 2 year period from a sample of inmates in nine state prisons located in three states: Louisiana, Pennsylvania, and Washington. These states were chosen because of their regional representativeness and three institutions were selected in each state: one male maximum security, one male medium security, and one female institution.

The term "learning deficient" (LDf) was operationalized for the purpose of this study as quantified functional illiteracy. An individual was iden-

tified as functionally illiterate when he or she scored at or below the fifth grade level on at least one of the subtests on the Tests of Adult Basic Education (TABE). In order to address the issues relating to learning deficiencies in the adult prison population, data were collected on the following categories of variables:

1. Demographic variables
2. Criminal justice variables
3. Educational background variables
4. Family background variables
5. Academic achievement variables
6. Ability variables
7. Disability variables

Information on general background variables of interest (Categories #1-4) was gathered by a structured analysis of institutional records and by interviews at the time of testing. The academic achievement variables (Category #5) were measured by the TABE. The ability variables (Category #6) were measured by the administration of the Wechsler Adult Intelligence Scale-Revised (WAIS-R). An adaptive behavior checklist based on the American Association of Mental Deficiencies (AAMD) Adaptive Behavior Scale-Institutional Version was also used to address the issue of adaptive behavior as a component of mental retardation. The disability variables (Category #7) were assessed by administering selected subtests of the Mann-Sulter Learning Disabilities Screening Test. A detailed description of the research design and methodology utilized is contained in Chapter III of this report.

The choice of the research design, and the selection and administration

of the data collection instruments for this study presented several problems worthy of mention.

The broad area of problems which such a research effort attempts to address has merit but, as yet, there are still areas of uncertainty, particularly in regard to definition of terms, identification of problems, establishing of relationship, and instrumentation and methodology. Obviously, these problems have faced researchers conducting studies among delinquent youth. They are, however, compounded at the adult level by such factors as age, self-concept, motivation, extended contact with the criminal justice system and by long periods of incarceration.

The problems of defining and identifying such inmate-related factors as specific learning disabilities (LD), mental retardation, emotional disturbance, physical handicaps and other influential variables, of determining their prevalence, of examining possible relationships between these factors and various background characteristics of inmates could have been addressed in at least three broad ways. The most "attractive" in a research sense would have been to concentrate on a narrow area of deficiency (e.g., visual perception, minimal brain damage, auditory discrimination), to select or design a sophisticated instrument to measure it, and to seek to establish some relationship. The difficulty with this approach is that the development or purchase of a sophisticated battery and its administration to a sufficiently large sample would be limited by available funds ($200,000) and allocated time (2 years). It would also limit the possibility of addressing the broader issues of policy, program and treatment by the criminal justice system.

A second approach would have been to select a sample from a single in-

stitution and approach the problem as an "in-depth case study," to address many more areas of deficiency and to examine their relationship to other background factors. This approach, however, would not result in any degree of representativeness and would not take into account regional, sex, "system," or institutional differences.

The approach used in this study, which is explained in detail in Chapter III, addresses this problem from a somewhat broader perspective. We are of the opinion that before a narrow, deficiency-specific approach can be utilized, much more needs to be known about the prevalence of broadly-defined learning deficiencies and their relationship, if any, to educational attainment and background characteristics including criminal justice variables. Past experience, both in the fields of correctional and special education and with the National Correctional Education Evaluation (Bell et al., 1979; Bell, Conard, Laffey, Volz, & Wilson, 1977), led us then to the approach utilized in this project. The nature of the problem and the fact that it has yet to be researched in any serious fashion has had an impact on this approach. The issues addressed and the research questions asked are, of necessity, both broad in scope and yet attempt to deal with those specific areas of interest that our research, and that of others, have indicated as being most fertile.

The selection of instruments for the study presented some problems. While the TABE, utilized to measure academic achievement. and the newly revised Wechsler Adult Intelligence Scale, selected to measure the ability levels of the sample are, by consensus, considered to be the best available, they do have some weaknesses when utilized in an adult population that was incarcerated for some time and who, for the large part, have not completed a

formal and normal educational program. The Mann-Suiter Learning Disabilities Screening Tests, administered to those subjects who scored at or below a fifth grade level on the TABE, were used to attempt to determine the specific nature of the disabilities. This instrument was chosen for its adaptability and ease of use and because of the necessity to garner as much information as possible on such areas as auditory and visual discrimination, memory, and closure.

The issue of adaptive behavior assessment as an integral part of any diagnosis of mental retardation warrants some comment. This will be discussed in detail in Chapter III.

The difficulties of conducting research in the prisor setting deserve some comment in this introduction. Most social science research, whether it is conducted in the community or in educational and mental and health facilities, is essentially carried on in a hospitable environment with relatively cooperative subjects. This is not the case in correctional facilities. By and large, any data collector or test administrator is understandably viewed as a possible security threat by the security staff. The testing of prisoners, either in groups or as individuals, requires the disruption of the normal movement and work routine of the prison population and most administrators, work supervisors and correctional officers can control their enthusiasm for such movement and break in routine caused by the researcher's attempt to collect data and complete the testing. The generous cooperation and support of the administration and staff of the nine institutions and of the Chief Correctional Officers in the three state capitals used in this study has been acknowledged in this document and our appreciation is noted once more. However, security and work restrictions

which hampered access to subjects required considerable flexibility on the part of the test administrators as indicated by their willingness to return to the institutions to complete testing and by their ability to respond to the political needs of the institutional bureaucracy. Such barriers are time consuming and draining but are a reality of prison research.

Another major difficulty in conducting research in the correctional setting is the suspicion and insecurity of the inmate who has, by and large, failed in the educational enterprise on the outside and is being asked to willingly give of his or her time to take a series of academic and intelligence tests. This is coupled with the natural resentment of being asked to give up income from work assignments or to give up recreational opportunities. It was feared that such problems would seriously limit the number of inmates willing to participate, and possibly skew the sample in favor of the more able inmates. The methods used to com[illegible]ts are described in Chapter III, but suffice it to say that we are reasonably confident that the sample, as drawn, is representative of the institutions used in the study. The barriers raised by the insecurity of the inmates, the lack of incentives to participate, the threatening circumstances of any testing situation and the typical unplanned movement of prison population (e.g., transfer, release, escape and death) did result in the "bleeding" of subjects from the original sample. This, we suggest, was unavoidable and does not in any way detract from the validity of the research findings reported in Chapter IV or the recommendations stated in Chapter V.

In order to address the problems associated with the analysis of the previous research, the research design, the selection of instruments and of sample selection and retention, the research team was fortunate to have the

services of an advisory board who reviewed all data collection instruments and the research approach and advised on the best way of presenting the intent and design of the study to the Correctional Agencies and to the inmates. The advisory board was made up of the following members:

* Dr. Paul B. Campbell - The Ohio State University.

Dr. Campbell has had wide experience in the area of assessment of learning disabilities and, as Director of Program Administration, Educational Testing Service, Princeton, N.J., he was involved in the research on the link between juvenile delinquency and learning disabilities.

* Dr. Philip A. Mann - The University of Miami.

Dr. Mann is the co-author of the widely used Mann-Suiter Learning Disabilities Screening Tests utilized in this study. He has had broad academic and practical experience in the field of special education in general, and in the assessment of learning deficiencies in particular.

* Dr. Barry Mintzes - Michigan Department of Corrections

As a psychologist and a prison superintendent, Dr. Mintzes has had broad experience in both correctional treatment and administration.

The advisory board, representatives of the National Institute of Justice (NIJ) and the Lehigh University Project Staff met for a one-day discussion of the design, instrumentation and data collection in November, 1981 at the NIJ offices in Washington, D.C. The guidance and advice of this board and of Phyllis Jo Baunach and Bob Burkhart of NIJ did much to avoid many of the pitfalls associated with a research project of such a scope and intent.

The results of the data analyses, reported in Chapter IV, are divided into five major sections:

1. Comparative information on participants and non-participants.
2. Descriptive information on the nature of the sample by race, sex and by state. This information is also presented separately for the learning deficient and the non-learning deficient inmates.
3. Achievement, intelligence, and disability test results for the sample.
4. The relationships between academic achievement, intelligence and learning deficiencies and background and demographic characteristics of the sample by race, sex and state.
5. A discussion of the analyses as they relate to the research questions posed earlier and the implications of the findings.

The final chapter of this document is a summary and discussion of the study's findings as they relate to future policy decisions, program design and research needs.

It should be noted that, given the large body of information collected in the course of the study, not all possible analyses have been done nor have all potential research questions been addressed. Given the thrust of the study and the constraints of time and resources, only those issues outlined above and described in detail in Chapter III have been addressed. It is to be hoped, however, that the body of research summarized in Chapter II and the questions raised in the final pages of this report will lead us and other researchers to continue to analyze the currently available data and to expand upon this pioneering effort.

CHAPTER II

LITERATURE REVIEW

Since information regarding learning deficient adult inmates is sparse at best, literature in related areas with related populations is reported. This chapter presents the research on learning deficiencies among these populations. The first major section of the chapter addresses the issues on learning deficiencies among juvenile delinquents and the second section presents information on research done on mental retardation among adult inmates.

Learning Deficiencies among Juvenile Delinquents

In an early study of delinquent boys in the Chicago area, Shaw and McKay (1969) found that 60.2% of their sample (399 delinquents who had been brought into the Cook County Juvenile Court on delinquency petitions during 1920) reappeared in court as adult offenders. More recently, Greenwood, Petersilia, and Zimring (1980) studied 340 adult male inmates in California and found that 59% of the sample had had at least one juvenile conviction. According to Greenwood et al., "Both common sense and prior research [indicate] . . . that the juvenile record is the best available predictor of young adult criminality" (p. 41). It also should be noted that youthful offenders (age 16-21) account for "39 percent of all arrests . . . 34 percent of all violent arrests, 40 percent of all property arrests, and 46 percent of all robbery arrests" (Greenwood et al., 1980, p. 4). In light of this, it should be of some value to look at the studies which have been done with juvenile delinquents investigating the possible relationship between handicapping conditions and low literacy levels.

Although there is more information available on the incidence and prevalence of learning deficiencies among juvenile delinquents than among adult inmates, areas of uncertainty still exist, particularly in regard to the definition of terms, identification of problems, establishment of relationships, and instrumentation and methodology. Therefore, caution must be used when citing research in this area. Even though learning deficiencies pose fewer definitional problems than do specific learning disabilities (LD), some confusing issues remain. Although observable physical problems such as orthopedic handicaps can be relatively easily identified, these types of handicaps are rare in the juvenile delinquent population. Additionally, moderate to severe mental retardation is seen infrequently among juvenile delinquents (Kindred, Cohen, Penrod, & Shaffer, 1976). Instead, learning deficient delinquents are often in the mildly retarded range. Unfortunately, it is difficult to pinpoint the source or nature of such a deficiency since many of the symptoms of mild retardation can easily be confused with symptoms of learning disabilities or socio-emotional disorders.

Given any sample of juvenile delinquents, accurate assessment and evaluation are difficult to achieve. The problem is compounded when attempts are made to gather facts and figures from various locales since different states use a variety of tests, procedures, and definitions regarding their adjudicated delinquent populations. Greguras, Broder, and Zimmerman (1978) referred to this problem as "difficulty in cross-jurisdictional research" (p. 19). Additionally, since much of the data available on the national level are based on self-reported state incidence figures, care must be taken in interpreting these studies.

"Society's concerns for preserving order, protecting individual rights, and offering equal educational opportunities to all citizens conflict when society confronts the handicapped young adult in the justice system" (Kelitz & Miller, 1980, p. 117). The justice system, which protects society, is juxtaposed against the educational and psychological practitioners who advocate the individual needs of an educationally handicapped juvenile offender. By virtue of their institutionalization, those juvenile delinquents who are confined in correctional facilities across the nation are more available for assessment than non-institutionalized delinquents. It is useful to know the nature of the offenses which have been committed by delinquents and to have an idea of the breakdown of their demographic characteristics such as age, sex, and race. Accurate figures of such a nature are relatively easy to obtain. In planning a useful educational program, however, a close look at the educational needs and the incidence of handicapping conditions among this group is necessary. Despite the definitional and logistical problems discussed earlier, many researchers have been turning their attentions, in recent years, to investigations of the nature and prevalence of these handicapping conditions among delinquent youth.

Mental Retardation

During the early part of the 20th century, many myths and prejudices existed concerning the mentally retarded offender. Goddard (1915), who estimated that 50% of all criminals were "feebleminded," stated the following:

> If we wish to save our teachers from the possibility of being murdered by their pupils or our daughters from being killed by their wooers or businessmen from being struck down by the blows of feeble-minded boys, we must be on the watch for symptoms of feeble-mindedness in our school children. When such symptoms are discovered, we

> must watch and guard such persons as carefully as we do cases of leprosy or any other malignant disease. (Biklen, 1977, p. 51)

This type of statement reflects some of the fear and loathing society had of mentally retarded individuals early in this century. In a study done with 19 patients at the Massachusetts School for the Feeble-minded, Fernald (1909) identified certain subjects as criminal imbecile types and recommended that they be removed from society as soon as possible (Biklen, 1977). A few years later, Pyle (1914) examined 24 residents of a state institution for delinquent girls and found that two-thirds of them were of subnormal intelligence (Morgan, 1979). The conclusion arrived at by many researchers during that time was that a close relationship existed between mental defects and crime. Goddard, as a result of his study of feeblemindedness in children at the Vineland Research Institute, concluded that subnormal intelligence was causally related to crime (Biklen, 1977).

Since the early part of the 1900's, most of the research which has been done investigating the incidence of mental retardation among delinquents has viewed this deficiency as one of a number of potentially handicapping conditions. One notable exception to this approach was a research study reported by Haywood (1981). Haywood discussed two studies which were conducted during the 1970'S which examined the incidence of mental retardation among adjudicated delinquents serving in juvenile correctional institutions in Tennessee.

As a result of an examination of 1,054 adolescents in the Tennessee institutions, Haywood found that 34% of the sample scored between 70 and 84 on a group administered intelligence test, and 18% scored below IQ 70. In one institution for adolescent males between the ages of 12 and 14, only 28% of

the population had IQ's of 65 or above, and 72% of the sample were at least one standard deviation below the national mean. When individual intelligence tests were administered to all those who had scored below 85 on the group IQ test, however, "the picture changed markedly with respect to IQ. The percentage who achieved IQ's in the mentally retarded range fell from over 30% on the basis of group administered tests to about 9% on the basis of individually administered tests" (Haywood, 1981, p. 282). Haywood's findings indicate that, depending on the type of test used and the manner in which it is administered, IQ scores can vary widely for a given individual. Haywood also made the observation that institutionalized juvenile delinquents in Tennessee were overwhelmingly of low socio-economic status, more so even than incarcerated adults. He labeled the majority of retarded, institutionalized juveniles as "mildly retarded," the products of environments that were not conducive to optimal educational and intellectual development. The retarded youths were also found to have impaired social skills, and there was evidence that they were involved in more fights with their peers and were punished more frequently than those delinquents who were not identified as retarded.

Learning Disabilities

Prior to the 1960's, terms such as "feeblemindedness" and "academic underachievement" were used as catch-all terms in an attempt to explain the high incidence of learning problems which were seen to exist among juvenile delinquents. At that point, "dyslexia," "minimal brain dysfunction," and "specific learning disabilities" had been neither identified nor defined as possible contributing factors. In retrospect, careful analysis of the early studies which proposed a possible relationship between learning deficiencies

of some kind- no matter what the label--and juvenile delinquency suggest that they may have been describing learning disabled (LD) children.

Murray (1976), in a report on research conducted by the American Institute of Research (AIR), stated that "learning disabilities was intended as a label, a convenient way of referring to a variety of learning problems which apparently were not caused by low intelligence, emotional disturbance, physical handicaps, or incompetent teachers" (p. 11). Long before Kirk coined the term "learning disability" in the early 1960's (Lerner, 1981), however, practitioners were looking at connections between learning problems and juvenile delinquency. Although some early hypotheses were presented in an attempt to explain the link between learning problems and delinquent behavior, for the most part it was assumed that poor performance in school was just one aspect of the delinquent's general rebellion against society. Zinkus, Gottlieb, and Zinkus (1979) stated: "Poor learning was seen as the result of disordered personality traits and aberrant behavior, rather than the cause. While professionals searched for psychosocial etiologies, perceptual disorders and learning disabilities were largely ignored" (p. 180).

Early research studies. In the first half of the 20th century, below average academic achievement was viewed as a symptom of rebellion against social institutions such as the school. Kvaraceus (1944) reported that as many as 90% of delinquents were reading deficient (Zinkus et al., 1979). Around this time, researchers were beginning to turn their attentions to the possible connection between reading disabilities and juvenile delinquency. Monroe (1932) pointed to the inability to read as a critical school problem which often led to truancy and incorrigibility (Zinkus et al., 1979). In

examining more closely the works of such investigators as Aichorn (1935), Binet and Simon (1916), Fernald (1912), Glueck and Glueck (1950), and Strauss and Lehtinen (1947), it seems likely that these early reports on delinquent behavior were describing "learning disabled" children. Problems such as motor coordination deficits, hyperactivity, poor attention span, expressive language deficits, and reading disabilities with frequent reversals, were discussed frequently in the literature. It was suggested by both researchers and practitioners that something might be "causing" the academic problems which seemed to be connected with delinquent behavior. With the advent of the term "learning disabilities" in 1963 came a rapid growth in interest both in LD and in the possible relationship between specific learning disabilities and juvenile delinquency.

The recognition of learning disabilities as a deficiency area provided researchers with a possible explanation for the apparent connection between reading problems and academic failure and juvenile delinquency. Formal and informal observations appeared to support a link between learning disabilities and juvenile delinquency (Lane, 1980). The so-called "LD/JD link" became a popular issue for researchers and many studies of the prevalence of learning disabilities among the adjudicated delinquent population were done using a variety of testing batteries and criteria. The estimates which emerged from these studies covered a wide range. Murray (1976) stated the following: "The disparity of estimates fairly reflects the disparity of definitions, procedures, and analyses in the study" (p. 61) In spite of the general understanding among practitioners that the causes of juvenile delinquency were complex and varied, substantial federal funds were spent in the late sixties and early seventies in an effort to prove that a causal re-

lationship existed between learning disabilities and juvenile delinquency. Although, due to certain definitional, diagnostic, and methodological problems the studies did not prove the existence of this causal relationship, there were clear indications that this issue deserved closer investigation.

The AIR Report (Murray, 1976) contains an annotated bibliography which summarizes 86 studies which linked learning disabilities and juvenile delinquency. The interested reader can refer to Murray for a more comprehensive review of the LD/JD literature through 1975. For the purposes of this report, the most significant of these studies will be discussed briefly in an attempt to highlight "the state of the art" in the time period between the emergence of the LD definition and Murray's AIR Report in 1976. In summarizing these research studies it should be noted that, although incidence estimates of learning disabilities among both delinquents and non-delinquents are readily available, few researchers have done comprehensive studies which have looked at both the delinquent population and the non-delinquent population. Therefore, care must be taken in making comparisons between available figures since these estimates have not been arrived at through uniform assessment procedures. Whereas the "entire" American school population is difficult (and expensive) to accurately measure, institutionalized juvenile delinquents--by virtue of their institutionalization--are, at least temporarily, available for testing and assessment. However, institutionalized juvenile delinquents are an extremely select and unrepresentative population. Wolfgang, Figlio, and Sellin (1972) reported that fewer than one apprehension in ten results in institutionalization; additionally, a large percentage of delinquent acts do not even result in apprehension. The institutionalized delinquent is "special," therefore, due

to both his institutionalization and his unique availability for testing.

When compared to LD prevalence estimates of 5 to 10% (Murray, 1976) in the general population, "prevalence estimates of LD among juvenile delinquents . . . have been higher and have varied more widely" (Kellitz, Zaremba, & Broder, 1979, p. 7). Most of the research studies which have produced these estimates, however, have examined the symptoms often associated with learning disabilities without directly and explicitly confronting LD incidence among delinquent as opposed to non-delinquent populations. In his study of 102 male youths in the San Francisco area, Tarnopol (1970) found high rates of functional illiteracy (58%)and visual-motor problems (67%), and left-right orientation difficulties. Weinschenk (1967) found many of his subjects to exhibit classical signs of perceptual disturbances such as word and letter reversals and missequenced letters (Zinkus et al., 1979). In a study by Berman (1974), 55% of delinquent subjects manifested either significant visual-perceptual or visual-motor coordination deficits, or a combination of the two. Additionally, 31% showed evidence of perceptual-motor disabilities, while 30% evidenced auditory memory deficits (Murray, 1976) Rubin and Braun (1968) noted visual, auditory, tactile and kinesthetic perceptual problems in behaviorally disturbed children, as well as significant deficits in verbal and nonverbal integration, orientation in time and space, and fine motor controls (Zinkus et al., 1979).

Keldgord (1968), in his examination of statistics on juvenile offenders and brain-damaged children, concluded that a high percentage of children committed to the California Youth Authority had subtle neurological damage manifested as impaired learning and social maladaptation (Zinkus et al.,

1979). Barcai and Rabkin (1974) identified hyperactivity, impulsivity, and distractibility as some of the characteristics used to describe delinquent children (Zinkus et al., 1979). In a 1965 study of delinquent subjects, Denhoff (Zinkus et al., 1979) found 53% to have evidence of organic brain dysfunction resulting in delayed motor skill development as well as speech impairment. In an address at the Ninth International Conference of the Association for Children with Learning Disabilities in 1972, Walle, an audiologist, reported that of 128 young male prisoners in Jessup, Maryland, 63, or nearly 50% were found to have clinically diagnosed disorders of speech and communication (Poremba, 1975).

The studies which have been cited above are representative of the body of research which was done prior to the publication of the AIR Report. The results of these studies attracted a great deal of attention and led to increasing competition for funding. Confusion arose regarding the issue of who or what was responsible for the high incidence of learning disabilities among delinquents. Neurologists, reading specialists, and LD specialists were all critized for not having diagnosed and corrected these problems within the schools. Classroom teachers were also blamed. Peterson (1971) stated that "much of what we have been calling learning disabilities is nothing more than mediocre education" (p. 14).

Although many important questions regarding the validity of the LD/JD link remained unanswered, urgent requests were made to the Law Enforcement Assistance Administration (LEAA) to implement treatment and prevention programs for learning disabled juveniles. It was thought by some that, by treating the learning disability, one could both "cure" the adjudicated delinquent and prevent others from becoming delinquent. At the same time,

however, skeptics warned against basing expensive treatment and prevention programs on a concept that might or might not justify the outlay of such funds. LEAA and the National Institute for Juvenile Justice and Delinquency Prevention (NIJJDP) then directed the American Institute for Research to conduct an objective review of the problem. The result was a critical turning point in the ongoing "LD/JD link" debate.

The AIR Report. The Washington Office of the American Institute for Research (Murray, 1976) performed an extensive, critical review of the then-current literature, theory, and expert opinion concerning the relationship between learning disabilities and juvenile delinquency. The literature available was summarized and critiqued. Murray's report concluded that "even if the comparison between delinquents and non-delinquents is ignored, no estimate of the incidence of LD can be derived from the existing studies" (p. 66). Definitional, diagnostic, procedural, analytic, and presentational problems existed, alone or in combination, in virtually all of the studies. Most of the estimates of LD incidence were concluded to be not only inaccurate but also in many cases, "simply uninterpretable" (p. 67).

Despite the weaknesses of the studies discussed, however, part of the AIR Report is a technical critique, which more closely examines seven of the studies which could be viewed as models from which some things can be learned. Berman (1975) and Hurwitz, Bibace, Wolfe and Rowbotham (1972) reported on comparisons between delinquent and non-delinquent populations on perceptual and integrative deficits. "A summary of our assessment is that both studies are valid tests of whether a clinical sample and a normal sample differed on the tests being administered" (Murray, 1976, p. 47).

Studies by Compton (1974), Critchley (1968), Duling, Eddy, and Risko

(1970), Mulligan (1969), and Stenger (1975) were also considered by AIR. It was felt that these five studies were unique in that they "explicitly sought to diagnose LD among a delinquent sample which was not preselected on the basis of learning problems . . . [and] sought to draw some conclusions about the incidence of LD" (Murray, 1976, p. 76). As was mentioned earlier, the range of incidence estimates varied from Compton's 90.4% to Stenger's 22%, the others falling in between. Again, first-hand examination of Murray's work is recommended to the interested reader.

Some of the studies, including Tarnopol (1970), were mentioned by the AIR researchers as not having been intended to be incidence studies in the first place, or only including LD incidence in passing. Murray stated that "this is not to denigrate the articles, but to point out that their inclusion as part of the scientific 'proof' for the LD/JD relationship is unwarranted" (p. 56).

As mentioned earlier, institutionalized juvenile delinquents are a "special" population. Despite the multiplicity of problems with the studies which Murray so thoroughly discussed, there are suggestions that the issues of the incidence of learning disabilities among this group merits closer investigation. As Murray (1976) stated: "Adding up the fragments from these and other studies, even though most of the quantitative studies can be criticized for not grappling with learning disabilities as such, they persistently suggest a pattern of learning handicaps" (p. 67).

The AIR Report gives conclusions and recommendations as a result of the research of Murray and his associates. Their finding, that no strong evidence for a causal link between learning disabilities and delinquency existed, was a reflection of the methodological weaknesses of the studies

which had been done. Murray's program recommendations and highlights of procedural issues have provided much of the direction for the work that has been done since 1976 regarding juvenile delinquents and learning disabilities. He suggested that there should be a moratorium on LD-related grant applications until a program strategy could be prepared and announced. The second basic guideline recommended a concentration in the research and evaluation sector. Technical advice was needed on some exceedingly difficult points which had to be resolved. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) was seen as an arbiter, contributing to the methodological considerations inherent in the accumulation of practical knowledge on an extremely controversial subject. Sound, rigorous research to determine the incidence of learning handicaps, including learning disabilities, among several specific populations was recommended. It was further recommended that the LEAA support a demonstration project to test the value of diagnosing and treating learning disabilities as an aid to the rehabilitation of serious juvenile offenders. As a result of these recommendations, two major projects were funded by the federal government, both following Murray's mandate regarding sound research definitions and methodological procedures.

Recent research studies. The first of these studies is described in the General Accounting Office (GAO) Report (Comptroller General of the U. S., 1977). This study "investigated underachievement among juvenile delinquents in institutions and found that about one-fourth of those tested by education consultants in Connecticut and Virginia institutions had primary learning problems or learning disabilities" (p.1). The GAO used the term "learning problems" to describe the broad category of educational dif-

ficulties of youths functioning two or more years below their expected grade levels. This category was then subdivided into three classifications: "satisfactory slow learners," "limited academic potential," and "underachievers." The first two of these categories did not fit into the LD realm. The third category, underachievers, was further divided into two areas consisting of primary learning problems and secondary learning problems. The former term was used synonymously with what are commonly accepted as "specific learning disabilities." Whereas "secondary learning problems" were referred to by the GAO as learning difficulties due to exogenous factors such as poor attendance or emotional and behavioral problems, the term "primary learning problems" was defined as "deficits in essential learning processes having to do with perception, integration, and verbal and nonverbal expression" (p. 7). The GAO Report further discusses their classification of learning problems.

In addition to the 25% previously cited estimate for learning disabilities among institutionalized delinquents, 51% of the subjects in the GAO study were found to have secondary learning problems. A bleak picture was shown overall, as only one of the 129 juveniles diagnosed was found to be functioning at the expected grade level.

Services which existed within the juvenile systems were judged by the GAO Report to be inadequate. Diagnostic evaluations either did not exist or were not used properly. The majority of the teachers did not have the appropriate certification or expertise to deal with students with special problems. The two factors which were found to negatively affect proper services in the juvenile institution setting were (a) the relatively short period of time the child was in the program and (b) the severe emotional and

academic problems of the children who entered into the juvenile system.

The GAO Report also examined the responsibilities of the nation's public schools to provide the necessary educational programs in order to treat children with either primary or secondary learning problems. The literature has tended to concur with the GAO's opinion that dealing with the LD/JD problem lies in the educational realm, as opposed to the realm of the juvenile justice system. The consensus is that the task can be more appropriately accomplished in that way. The ability of the public school system to deal with these problems is limited by, among other things, class size and fiscal constraints. An LD child whose needs are not being met by the school system may become entangled in a pattern of academic failure and frustration. The literature widely recognizes such failure and frustration as possibly a major contributing factor to the growing delinquency problem.

The GAO Report found that government involvement in identifying and treating learning problems has come through both the U.S. Department of Educaton and the U.S. Department of Justice's Law Enforcement Assistance Administration. The Department of Education has involved itself through three major pieces of legislation which provide federal funds to state-level programs designed to meet the needs of special students: The Elementary and Secondary Education Act of 1965, The Education of the Handicapped Act of 1970, and the Education for All Handicapped Children Act of 1975. LEAA, on the other hand, has supported major research in the area of delinquency and delinquency prevention, including some studies examining the LD/JD link.

The five year Association for Children with Learning Disabilities Research and Development Project (ACLD-R&D) is the result of a joint effort between the National Center for State Courts (NCSC) and the Association for

Children with Learning Disabilities. In light of the conclusions and recommendations of the AIR Report, the NIJJDP commissioned a project that has addressed three major issues:

(1) To determine the prevalence of LD in groups of adjudicated delinquent and officially non-delinquent 12-15 year old males;

(2) To design, develop and implement a treatment program for selected delinquents who were classified as LD; and

(3) To evaluate the effectiveness of the remediation program (U.S. Dept. of Justice, 1981).

The ACLD-R&D Project was the second major federally funded study of the LD/JD relationship to take place since 1976. This effort was funded in October, 1976; ACLD developed and conducted the remediation component while NCSC conducted the research and program evaluation. Additionally, the Educational Testing Service (ETS) of Princeton, New Jersey was retained by NCSC to perform diagnostic testing.

This comprehensive study used carefully developed and applied definitions of learning disabilities (Campbell, 1978) and juvenile delinquency (Greguras et al., 1978). Data for this study were collected in the metropolitan areas of Baltimore, Maryland, Indianapolis, Indiana, and Phoenix, Arizona. "In the spring and summer of 1977, and the summer and fall of the following year, the educational records of 2,197 12-to-17 year old boys and girls were reviewed systematically for indicators of learning disabilities" (Broder & Dunivant, 1980). The Educational Testing Service supervised reviews of records and administration of tests. Each youth whose records did not preclude the possibility of learning disabilities was administered a battery of educational tests, in order that an "LD" or "non-LD" classification could be made for the purpose of the research.

Standard procedures were developed and carefully applied to operationalize the ACLD-R&D definition of learning disabilities. "The tests that were administered included the Wechsler Intelligence Scale for Children--Revised, the Woodcock Reading Mastery Test, the Key Math Diagnostic Arithmetic Test, a visual perceptual test, and several other measures" (Broder & Dunivant, 1980). Additionally, each youth was interviewed in an effort to gather further information (e.g., family background, attitudes toward school, involvement in delinquent activities). Each youth was then classified as learning disabled or not.

Only boys who were between the ages of 12 and 15 years at the beginning of the study were included for the purpose of estimating the prevalence of learning disabilities. This sample included 968 non-delinquents and 628 adjudicated delinquents for whom complete data were available. In the officially non-delinquent group, 183 of the boys (18.9%) were classified as learning disabled. However, 229 of the officially delinquent youths (36.5%) were found to be learning disabled. The 36.5% figure, although not as alarming as the findings of many other LD/JD studies, still showed nearly twice the rate of learning disabilities among juvenile delinquents as among non-adjudicated youths. The quality control procedures and objective decision rules of the ACLD-R&D study, coupled with the large sample size, lend credence to the accuracy of these figures. Broder and Dunivant stated that the statistically reliable differences between the groups "suggest that learning disabled boys are more likely than nonlearning disabled boys to be members of an adjudicated delinquent group. Further data analysis revealed that the boys who were classified as learning disabled were proportionately more likely to have been members of the delinquent group, even when

differences in age, social status, and ethnicity were taken into account" (Broder et al., 1980, p. 3). It is important to remember that uniform standards of assessment were applied to both the delinquent and officially non-delinquent populations, so that a major weakness of many of the pre-AIR prevalence estimates was eliminated.

The fact that significantly more adjudicated delinquents were classified as learning disabled than were public school youths is an important finding, but should not be viewed as proof of a causal relationship between learning disabilities and delinquency. Kelitz et al. (1979) discussed the conditions of cause and effect which are generally required to establish such a causal relationship. Although the existence of a relationship between LD and JD remains scientifically unverified, the notion of such a relationship has become an accepted reality for some researchers and practitioners. Prior to the ACLD-R&D Project, there were two fairly widely-accepted explanations for the LD/JD link: the "school failure rationale" and the "susceptibility rationale." The first of the two theories has been discussed frequently in the literature and appears to be the most widely accepted explanation for the relationship between learning disabilities and delinquency. "The strong, consistent finding that juvenile delinquents have records of lower-than-average school achievement makes this explanation appealing" (Kelitz et al., 1979, p.8). The logic behind this theory identifies a four-stage process which is likely to occur with the learning disabled student, and which may ultimately manifest itself in acting out and delinquent behavior. Beginning with an initial stage when the child is labeled as a slow learner or discipline problem by adults, and as socially awkward by his/her peers, the chain progresses to a second stage when the

negatively-labeled child gradually develops a poor self-image and is grouped with other "problem" students. The need to somehow compensate for continued school failure characterizes the third stage and increases the probability of absenteeism, suspension, or dropping out of school. "At the fourth stage, immediately preceding delinquent behavior, the child has the psychological incentives, the economic incentives and increased opportunity (in the form of time on his hands) to commit delinquent acts" (Murray, 1976, p. 6).

The "susceptibility rationale" theorizes a more direct relationship than the "school failure rationale." It basically argues that learning disabilities, certain types and combinations in particular, are associated with behavioral tendencies which may lead to delinquency. Murray states that "general impulsiveness is one characteristic; a second is limited ability to learn from experience; a third is poor reception of social cues--the LD child can back himself into a confrontation without knowing how he got there" (p. 7). In short, some of the factors which might normally restrain a child from committing a delinquent act do not serve as signals to the LD child. The messages do not get through.

An assumption inherent to both of these proposed rationales is the notion that learning disabled adolescents commit more delinquent acts than do non-learning disabled youths, and that this results in the higher percentage of learning disabilities among adjudicated youths. "It is our investigation of precisely this notion which has led us to question the school failure and susceptibility rationales and to propose an alternative hypothesis concerning the relationship between LD and JD (Kelitz et al., 1979, p. 8). In an attempt to test the two existing theories, the ACLD-R&D researchers ad-

ministered a self-reported delinquency scale to the adjudicated and non-adjudicated youths in their sample (for procedural details and reliability and validity estimates of the scale, see Zimmerman and Broder, 1978). Although there were significant differences in some areas between the adjudicated and non-adjudicated youths, there were no significant differences between the frequency of self-reported delinquent acts between the learning disabled and the non-learning disabled youths who were assessed. Zimmerman, Rich, Kellitz, and Broder (1978) reported a further analysis of these data. They found no consistent differences in either the frequency or seriousness of self-reported delinquent offenses between the learning disabled and the non-learning disabled youths. Additionally, they found that among the adjudicated population, learning disabled and non-learning disabled delinquents committed the same types of offenses.

> The school failure hypothesis and the susceptibility hypothesis both purport to explain why learning disabled children are more likely than non-learning disabled children to engage in delinquent activities. Our data do not support these hypotheses about the LD/JD link. If it is accepted that learning disabled and non-learning disabled children engage in the same delinquent behaviors, our data do not support the school failure hypothesis, the susceptibility hypothesis, or any other hypotheses that propose differences in learning disabled children's delinquent behavior. (Zimmerman et al., 1978, pp. 17-18)

In light of this evidence, it was felt that a new rationale was necessary. Given the greater prevalence of learning disabilities among adjudicated juvenile delinquents than among public school children, if one accepts the self-reported delinquency data concerning comparable behavior among learning disabled and non-learning disabled youths, "school failure" or "susceptibility" rationales do not suffice. The ACLD-R&D people proposed a "differential treatment rationale" as a general hypothesis that may better

explain the relationship between learning disabilities and juvenile delinquency. According to this line of reasoning, somewhere in the juvenile system, learning disabled youths are treated differently from their non-learning disabled peers. According to Barton (1976), there is much discretional decision-making within the juvenile court system. The research shows that as a youth progresses through the juvenile court system, other factors such as school background, family, race and prior record assume increasing importance. The child is not, in short, judged according to the offense alone. This can, of course, be beneficial to the youth to the extent that individualized treatment is possible. On the other hand, this subjective power may be harmful if it is biased against a certain group, in this case the learning disabled. Hazel, Schumaker, and Deshler (1980) stated that "If learning disabled youths exhibit common behavior deficits, unrelated to the illegal offense, which tend to lead to less favorable dispositions by juvenile court judges, then the discretionary power is harmful" (p. 12). A delinquent child who has developed a coping style in school is less likely to be adjudicated, since school records are often taken into account. Additionally, the possibility of "differential apprehension" ties in with the notion of "differential treatment." Upon initial contact with a police officer at the time of apprehension, and before "official" contact with the juvenile court system, the child's coping style and ability to read appropriate cues come into play. A contrite and "appropriate" demeanor may result in a warning and a ride home.

Although the ACLD-R&D project findings indicated that there is some support for all three rationales, the most "significant" (Broder et al., 1980) of these still appears to be the "school failure rationale." Learning

disabilities increase the probability of delinquent behavior and of adjudication, under certain conditions. The results of a two-year follow-up study of 351 of the boys in the original sample suggested that under "certain conditions," learning disabled youths were more likely to have acquired court records than their non-learning disabled counterparts.

It can readily be seen in the above discussion that there has been a great deal of controversy among researchers regarding the existence and nature of the LD/JD link. Although no clear causal relationship has been established, there is certainly evidence that this is an area which merits further scrutiny. The children who could potentially benefit from research in this area include not only learning disabled juvenile delinquents, but also learning disabled non-delinquents and delinquents who are not learning disabled. Many systems and representatives of those systems, including teachers, social workers, law enforcement officers, and judges must also be involved in this research process. If a clear understanding of the relationship between learning disabilities and delinquency can be arrived at through further research, the implications for delinquency treatment and prevention would be far-reaching and profound.

Other disabilities

In a 1928 study of the incidence of physical impairments among institutionalized delinquents, Ball found that of his sample of 146 delinquents ranging in age from 10 to 18, 10% had defective vision, 23% had hypertrophied tonsils, and 38% had no physical defects (Morgan, 1979). More recently, Cozad and Rousey (1968) investigated the incidence of speech disorders among delinquents housed in two institutions and found that incidence estimates for this group were five times as large as comparable estimates

for non-delinquent population (Morgan, 1979). Several years later, in a similar study, Gagné (1977) found the incidence of speech disorders among delinquents to be twelve times more frequent than among their non-delinquent peers.

In 1975, as a result of both congressional studies and pressures by advocacy groups, new legislation was enacted by the federal government which greatly affected the area of educational opportunities for handicapped children. This law, the Education for All Handicapped Children Act (i.e., PL 94-142), is viewed by practitioners as the most important federal mandate to provide services to children with special needs, guaranteeing the right to a free and appropriate education for all handicapped children, including institutionalized delinquents. PL 94-142 has provided the impetus to researcher and practitioners to take a more comprehensive look at the special educational needs of the adjudicated delinquent population.

A recent PL 94-142 Task Force of the Virginia Department of Corrections and the Rehabilitative School Authority examined 300 inmates, 21 years of age and younger, in an effort to derive some figures that describe the incidence and nature of handicapping conditions. Brogan (1981) of the Rehabilitative School Authority contended that there do not currently exist any reliable prevalence data for youthful offenders residing in juvenile correctional facilities. From the original sample of 300, the potentially handicapped individuals were categorized according to the 11 definitions of handicapping conditions in the "Regulations and Administrative Requirements for the Operation of Special Education in Virginia." Brogan found 47% of the 300 to have potentially educationally-related handicaps. Regarding the primary disability indicated, he found 20% to be mentally retarded, 6%

to be seriously emotionally disturbed, and 21% to be specifically learning disabled. Particular mention was made of the problem regarding strict interpretation of the learning disabilities definition which states that "the term does not include children who have learning problems which are primarily the result of . . . environmental, cultural, or economic disadvantage" (Federal Register, 1977, p. 65083). For 56 of the 62 young offenders who were identified as specifically learning disabled, environmental, cultural, or economic disadvantage could not be ruled out as a contributing factor.

Research studies discussed above, such as those undertaken by Brogan (1981) and Haywood (1981), most often attempted to obtain figures on handicapping conditions from single states. A broader survey, conducted by Morgan (1979) in an effort to obtain a national profile of juvenile offenders, illustrated the problems which were alluded to earlier regarding cross-jurisdictional work. In order to comply with PL 94-142 and provide services for handicapped delinquents, each state must identify these children as well as assess the educational efforts being made in their behalf. Finding little such comprehensive information available, Morgan undertook a survey to identify the number of handicapped juvenile offenders committed to state correctional facilities throughout the United States and its territories. Responses were returned by 204 institutions. The accuracy of Morgan's totals relies on the accuracy of each state's findings. Therefore, due to differing state definitions and assessment methods, these figures can not necessarily be compared or contrasted among states.

Morgan (1979) reported a 42.4% incidence of all handicapping conditions which far exceeds the average incidence for the general population (12.03%)

(Blackhurst & Berdine, 1981). He reported that 16.2% of institutionalized delinquents were classified as emotionally disturbed, 10.6% were identified as learning disabled, and 7.7% were labeled educable mentally retarded. As was stated earlier, however, it is necessary to recognize the aforementioned problems regarding cross-regional study when interpreting these results. For example, five states (Kansas, Maine, Idaho, Delaware, and Montana) claimed that 100% of their institutionalized delinquents were handicapped. It should be noted that certain states define all of their institutionalized delinquents as handicapped by virtue of their institutionalization. This is generally done for funding purposes. Mesinger (1976) stated that significant percentages of juvenile delinquents being identified as handicapped does not represent research hyperbole, that there is indeed an argument for every institutionalized individual being considered "handicapped." The basic argument is that the state of institutionalization, by definition, indicates a lack of adaptive behavior. In contrast to the 100% figures, South Carolina (Morgan, 1979) claimed the lowest percentage, indicating that only 4% of their institutionalized delinquents were handicapped. Certainly, a disparity must exist regarding the definitions employed by the states. Regarding the 42.4% total, Morgan himself stated that "there is strong reason to believe that this figure is inflated" (p. 292). In addition to the problems of definition and assessment differences, Morgan stated several other reasons for the high incidence figures which were revealed by his survey. One possibility was "overlabeling" in an effort to secure extra subsidies or funding. He also mentioned the possibility that the states made hasty evaluations in an effort to give the impression that they had complied with PL 94-142. Additionally, he cited "attempts to conceal raw

data in order to support conclusions favoring the researchers' biases and predilections" (p. 292). These are unfortunate conclusions but they must, nevertheless, be considered when evaluating apparently contradictory data. Before another attempt at a national study is made, the cross-jurisdictional problems should be corrected, so that accurate figures from each state contribute to a meaningful national survey. There is still strong evidence, however, that a high rate of learning deficiencies explains, at least in part, the poor academic records of the juvenile delinquent population.

Mental Retardation among Adult Inmates

One of the problems in evaluating the needs of exceptional offenders in corrections is the lack of systematic, rigorous research concerning this population. Little is known about the prevalence of learning deficiencies among prisoners. The most comprehensive survey in regard to exceptional offenders is the frequently cited Brown and Courtless study (1968), concerning mentally retarded individuals in penal institutions. In their review of literature in criminology, psychiatry and related fields, they concluded that there were "no systematic data available about the prevalence of mental retardation in the antisocial population of the United States" (Brown & Courtless, 1968, p. 50). They found that few attempts had been made to examine either the nature of offenses or management and treatment programs for adult offenders of low intelligence. Despite this discouraging commentary, some effort has been made to consider mental retardation among offender populations.

There are over 6 million retarded individuals in the United States. Approximately 2.5%, or 150,000 of these, live in residential institutions for retarded individuals (Haywood, 1981). The "remaining 97.5 percent are

distributed across a variety of settings, not all of which have been designed to enhance the development of retarded persons" (p. 275). In considering "atypical settings" Haywood states that the variety of settings in which mildly and moderately retarded individuals are distributed presents problems in identification, diagnosis and treatment. Among such atypical settings, Haywood discusses two which are "not designed for retarded persons, but in which large numbers of retarded persons are found (at least in the United States)" (p. 276). These are adult prisons and psychiatric hospitals.

Of 400,000 incarcerated adults in the United States, studies show that most are "underskilled, undereducated, and from culturally and financially impoverished backgrounds" (Marsh, Friel & Eissler, 1975, p.21). According to Haywood (1981), the same subgroups of American society which produce the majority of the U.S. prison population "produce 80 percent of mildly and moderately mentally retarded persons" (p. 277). It has been suggested "that mental retardation and crime are more frequently related to . . . environmental factors than they are to each other (Allen, 1966, p. 4).

Statistical data describing inmate variables indicate that the majority of incarcerated individuals are from marginal segments of society, and commit unsophisticated crimes (Haywood, 1981). "Adult mental retardates are increasingly being processed through the criminal justice system" (Marsh et al., 1975, p. 21). From the point of contact with this system they are "doubly disadvantaged." These individuals lack the mental competence to understand the intricate judicial system, and are often incarcerated (Brown & Courtless, 1968) as a result of this. After failing to adapt to society's requirements, they are often avoided by social agencies which are reluctant

to deal with adjudicated retarded individuals (Brown & Courtless, 1968).

The estimates of the incidence of mental retardation range from 5 to 30% of the prison population (Haywood, 1976). Figures fluctuate according to variables such as geographic location, research design of available studies, and reporting practices of institutions. The most frequently cited estimates indicate that 10 to 20% of prison populations are mentally retarded (Santamour & West, 1977). Significant questions are suggested when these figures are compared to an estimated range of 1 to 3% for the incidence of retardation in the general population (Mercer, 1973; President's Committee on Mental Retardation, 1975b; Tarjan, Wright, Eynean & Keeran, 1973).

Differing placement practices among states influence sentencing, and differential sentencing practices skew prevalence estimates (Haywood, 1981; Santamour & West, 1977). There are no reliable estimates available, for example, of the number of retarded persons who are directed from the correctional system to other institutions (Santamour & West, 1977). In their 1973 study, Haskins and Friel noted that 10 percent of the population in residential facilities for retarded persons had had previous criminal justice contact. Santamour and West (1977) reported that, in a sample of state facilities for retarded individuals, five percent of the population had had contact with the criminal justice system.

Differences in incidence figures depend upon testing practices, reporting style, and education programming of various institutions. In most institutions, efforts are rarely made to diagnostically separate retarded individuals from those who are "simply illiterate" (DeSilva, 1980, p. 27). The cost of such diagnosis is prohibitive in most prisons, in which only an

estimated 5 to 9% of the total budget for corrections is allocated for educational programs (Bell et al., 1979; DeSilva, 1980).

DeSilva (1980) cited several examples of state evaluation and reporting practices that fail to distinguish illiteracy from learning handicaps. In Michigan and Illinois, group intelligence tests are administered with no individual follow-up evaluation to distinguish between illiterate and retarded individuals. This procedure is intentional, and serves to facilitate efforts to mainstream retarded inmates into existing remedial reading programs. In California where "routine testing" is done, "tests used aren't sensitive to detecting retardation" (DeSilva, 1980, p. 27). All illiteracy is treated as a reading or functional deficit rather than a cognitive deficiency, and mentally retarded offenders are placed in regular remedial reading classes.

In analyzing the records of nearly 200,000 inmates from every institution in the country, Brown and Courtless (1963) reported that 40% obtained IQ scores below 85 (Allen, 1966; Marsh et al., 1975). Although standardized intelligence tests are the primary means of determining intellectual level both in the general population and in prisons, evident difficulties in applying these measures must be considered in analyzing resulting prevalence figures.

Some authors describe "loading factors" (Brown & Courtless, 1968), or inmate variables, such as educational opportunity or literacy rates which influence test achievement (DeSilva, 1980; Rowan, 1970). Many offenders exhibit assessment patterns in the retarded range of development, but these scores are "instead the results of cultural, social and economic disadvantage, poor education, and other environmental factors that mask

greater potential for learning and for satisfactory adjustment" (Haywood, 1981, p. 277). Because of the difficulties in distinguishing evident retardation from the effects of cultural disadvantage "even an IQ of 60 might not warrant a diagnosis of mental retardation" (p. 279). Haywood concluded that because of "administrative artifacts" and unquantifiable sociocultural and environmental factors "the proportion of mentally retarded persons in a prison population may be no more than the representation of retarded persons in those segments of society from which most prisoners have come" (p. 277).

Studies have shown that many prisoners are functionally illiterate (Bell et al., 1979; Conard, Bell & Laffey, 1978; Kilty, 1977; U.S. Department of Justice, 1979; Reagan et al., 1976). Therefore, definitive statements about mental retardation among offenders may be inappropriate since many prisoners may not have been able to read the measures used to identify them as retarded. Psychologists as well as correctional officials have questioned the sensitivity and precision of intelligence and achievement measures (Haywood, 1981; Mercer, 1971). One commonly accepted means of distinguishing between mentally retarded and low-achieving individuals is to include an assessment of adaptive behavior skills in a diagnosis. Haywood (1981), however, has criticized existing adaptive behavior measures such as the AAMD Adaptive Behavior Scale, pointing out that "by definition, the adaptive behavior of all prisoners is significantly impaired (especially on the maladaptive behavior dimension)" (p. 277).

Haywood (1981) recommended clinical evaluation of inmates, rather than IQ or achievement testing alone, as the most accurate means of identifying retarded inmates. Differences between the application of the clinical method and "routine" achievement and IQ testing are evident in prevalence

statistics. For example, DeSilva (1980) criticizes Atlanta's reported 39% incidence rate of retardation among inmates because of evident discrepancies in application of assessment measures. DeSilva compared this figure to that of North Carolina, where individual WAIS IQ scores were obtained on those scoring in the retarded range of group tests. Using individual testing, only 3.6% of 8,000 inmates were reported as retarded (DeSilva, 1980).

Although a variety of intelligence measures are used among institutions, resulting IQ's are often reported as though they are comparable. DeSilva (1980) discussed the prison practices of four states in regard to identification of retarded offenders. In Tennessee, several attempts were made to determine the extent of retardation among 6,500 adult inmates; however, results were reported by that state's assistant corrections director as "unreliable" (p. 32). Although the Virginia Department of Corrections reported 360 retarded individuals among 7,725 inmates, department officials also reported a lack of confidence in these figures. The group IQ testing done by a central reception center of the Maryland Department of Corrections was reported by its superintendent as "so sloppy that you'd be concerned about labeling" (p. 28) on the basis of these tests. The director of services for the Georgia Department of Offender Rehabilitation reported that no testing was done to separate retarded and non-retarded offenders. All evaluation was done in group testing and those who did poorly were generally placed in the same literacy and vocational programs.

Several writers have discussed factors that result in a rate of inmate retardation that is three times that of the general population (Allen, 1968; Brown & Courtless, 1968; DeSilva, 1980; Santamour, 1978; Santamour & West, 1977). One suggestion (Haskins & Friel, 1973) in regard to these figures is

that "the preponderance of mentally retarded individuals involved in the criminal justice system may be more an administrative and legal artifact than evidence for a causal relationship between mental retardation and criminality" (Santamour & West, 1977, p. 3).

Analysis of the characteristics of retarded offenders has led to three conclusions. Mentally retarded offenders are committed at an earlier age than non-retarded offenders (Mann & Rosenthal, 1971; Marsh et al., 1975). They remain in the correctional system longer than non-retarded inmates (Haskins & Friel, 1973; Kentucky, 1975)and there are disproportionate numbers of minority groups among retarded offenders (Haskins & Friel, 1973).

It is possible that retarded offenders are punished for violating rules they do not understand (DeSilva, 1980). Statistical data, on a limited sample of retarded inmates, seem to support the observation that retarded offenders are helpless, inept, and easily caught (Brown & Courtless, 1965, 1971; DeSilva, 1980; Santamour & West, 1977). From a sample of 50 retarded inmates in the Brown and Courtless survey, the following statistics were calculated from information appearing in criminal records: during their trial, 7.7% were not represented by lawyers; 69% had court appointed representation; 59% entered guilty pleas, and 40% of those pleading not guilty waived the right to a jury trial. It was additionally reported that in 80% of the cases, the original charges and the convicting charges were the same. In two-thirds of the cases, incriminating statements were obtained. Approximately 78% of the cases revealed no pretrial psychological or psychiatric examination. For 92% of the retarded inmates, competence and criminal responsibility were not questioned in regard to the ability to stand trial. No appeal of conviction was made for 88% of the sample, and

for 84% of the inmates, post conviction release was not requested. On the basis of statistical analyses such as these, the assumptions and observations presented below have been made regarding retarded offenders.

The cognitive difficulties of retarded persons dealing with the criminal justice system have previously been noted. Mentally retarded prisoners are often unable to understand police and court proceedings (Allen, 1966), and ar unlikely to understand their legal rights (President's Panel on Mental Retardation, 1963). It is suggested that retarded defendants are more easily convicted because of their limited ability to recall details, locate witnesses, and present credible testimony (Haggerdy, Kane & Udall, 1972; President's Panel on Mental Retardation, 1963, 1967; Santamour & West, 1977). Retarded individuals have often learned to assume a facade of competence in order to mask discomfort concerning their handicap (Edgerton, 1967; Edgerton & Bercovici, 1976; Fox, 1976). Criminal justice personnel, consequently, remain unaware of the handicap.

It has been suggested that when confronted by criminal justice personnel, retarded individuals are likely to confess more readily than other individuals (Hegerty & Israelski, 1981). They are more likely to react to intimidation by authority or may be more easily influenced by friendly suggestion (DeSilva, 1980). A study by Schilit (1979) examined how the criminal justice system handled mentally retarded offenders. The author surveyed the knowledge and awareness of police, lawyers, and judges in regard to mental retardation. The study implies that mentally retarded individuals might be "unduly prosecuted, tried and convicted" (p. 16) of crimes, even if not guilty, if criminal justice personnel are not knowledgeable about mental retardation.

In a survey which was sent to 210 criminal justice personnel (Schilit, 1979), 70% of police, 53.3% of lawyers, and 57.1% of judges responded. Ninety-seven percent of the 130 total respondents reported that they had received no training in regard to mental retardation. Over 31% had had no professional contact with retarded persons. Sixty-five percent of the respondents felt they understood the term mental retardation, and 97% realized mental retardation and mental illness are different conditions. Upon analysis, however, questionnaire responses reflected misunderstanding of terms and inconsistency in perspectives. Conclusions drawn from specific questionnaire responses indicate that criminal justice personnel are confused to the point of contradiction over the meaning of the term "mental retardation."

Two possible results can occur from confusion in the criminal justice system in regard to mental retardation. Retarded individuals may be either inappropriately sentenced and committed, or released from punishment for a crime against society (Schilit, 1979). "Little, if any, research has studied the effect of mental retardation on a person's ability to understand the criminal proceeding or participate effectively in his defense" (Marsh et al., 1975, p. 22). It should be noted that much of the discussion that has been generated in the literature in regard to mentally retarded persons in the criminal justice and correctional systems is based upon expert opinions as opposed to the results of experimental research.

Many issues have been raised in regard to a mentally retarded individual's ability to stand trial. In general, defendants plead guilty in 90% of all criminal cases and less than 10% of all misdemeanor or felony cases go to trial (Marsh et al., 1975; Pollack & Smith, 1970). Marsh et al.

suggested that the way in which various statutes are written influences the likelihood of mentally retarded defendants coming to trial. If the fact of retardation is revealed, retarded persons may be negatively affected by statutes established for mentally ill defendants. If retardation is not revealed, the right to due process may be inhibited. "Avoiding legal errors in trials and convictions of the mentally retarded presents a difficult problem for the courts and prosecutors alike" (Marsh et al., 1975, p. 24). In analyzing the Brown and Courtless figures (1968), it would appear that the competency of mentally retarded persons is not determined prior to trial, conviction, and sentencing (Marsh et al., 1975).

"If the retarded offender is poor, in addition to his mental handicap, he has an even smaller chance for special consideration by the court" (Marsh et al., 1975, p. 24). According to Marsh et al., court appointed attorneys often plea bargain, because they "do not have the time to expend as much effort on an indigent as a regular client" (p. 24). Although the pressures of overcrowded prisons and court dockets are the usual reasons for this process among lawyers, it is described as a short circuit in due process for retarded defendants. It has already been suggested that retarded individuals do not have the reasoning capacity to decide among several alternatives. Through this process, they may plead guilty without ever having committed a crime (Hagerty & Israelski, 1981; Kindred et al., 1976; Santamour, 1978; Santamour & West, 1977).

Once in the correctional system, mentally retarded offenders encounter difficulties which cause them to remain in the system longer than inmates of average ability. In a 1976 study of Kentucky state prison records (Santamour & West, 1977), 42% of mentally retarded inmates were found to

have served more than three years of their sentences, as compared to 23.5% of other prisoners. Several reasons have been suggested in an attempt to explain this difference (Santamour & West, 1977). The nature of offenses for which the two groups have been incarcerated may differ. Retarded offenders tend to evidence a higher incidence of institutional "misdemeanors," leading to loss of "good time." Limited cognitive capacity inhibits the probability of completing training and education programs that influence parole.

From their statistical data, Brown and Courtless (1971) suggested that retarded offenders are slow to adjust to prison routine. They have difficulty comprehending expectations and, consequently, commit frequent rule infractions. Even their physical conditions contribute to diminished functioning. Studies have shown that, upon entering prisons, retarded offenders frequently may evidence poor health, are malnourished, require extensive dental care and have parasites (Gordon & Haywood, 1969; Haywood & Switzky, 1974; Haywood, Filler, Shifman & Chatelanat, 1975).

Observations of social patterns among retarded inmates reveal that they often present "problems" for correctional officials (Saulner, 1981). Mentally retarded offenders are described by prison officials either as stubborn and recalcitrant (DeSilva, 1980), or as easy victims for other offenders (Haywood, 1981; Morgan, 1973; Santamour & West, 1977). These individuals are frequently the brunt of jokes (Brown & Courtless, 1971), or are subject to physical and sexual abuse by other inmates (Haskins & Friel, 1973; Illinois, 1975; Kentucky, 1975; South Carolina, 1973). Retarded inmates exhibit little insight into their behaviors and offer few excuses (Gan, Alexander, & Nishihira, 1977; Kahn, 1976; Santamour & West, 1977).

Due to their inability to react as quickly as others (Saccuzzo, Kerr, Marcus & Brown, 1979), they become scapegoats, and may be less likely to earn early release time.

National correctional statistics reveal that three out of five inmates earn early release instead of continuing their full sentences (Marsh et al., 1975). As mentioned earlier, correctional and rehabilitation programs are generally not geared for exceptional offenders. Retarded offenders require more time and attention in education and training programs. Even with instruction, they may be unable to develop self support and employment skills which parole boards take into consideration for release. Retarded inmates have been described as poor parole risks (Brown & Courtless, 1968; DeSilva, 1980; Santamour & West, 1977). They generally lack job skills and are unable to present employment and residential plans at parole hearings. Since a steady job is frequently a requirement for parole, they remain imprisoned longer.

Frequently, mentally retarded offenders do not have family or community advocates who might supervise their return to the community. Once they are released, they may be unable to negotiate social service and mental health systems in order to obtain services that are available to them (Charles, 1953; DeSilva, 1980; Edgerton, 1976). If they do obtain jobs, they frequently lose positions, not because of inability to perform work, but because they are unable to get along with fellow employees (Cohen, 1960; Goldstein, 1964). Retarded individuals often fail on the "outside" because of lack of social skills, not lack of vocational skills (Edgerton, 1967; Edgerton & Bercovic, 1976; Meredith, Saxon, Doleys & Kyzer, 1980). Rather than risk recidivism, parole boards tend to retain retarded offenders for

their full prison terms (Allen, 1966; Haggerdy et al., 1972; Santamour & West, 1977).

In addition to the institutional factors which might be reflected in prevalence figures, psychodynamic factors have also been considered in relation to the kinds of offenses that mentally retarded individuals commit. In 1963, a national survey of mentally retarded offenders in correctional institutions examined the extent of retardation in the population. The survey considered the kinds of crimes committed and the problems encountered in dealing with retarded persons in institutions (Brown & Courtless, 1968).

From the American Correctional Association (1963) directory, 207 institutions were polled. Eighty-four percent of the survey questionnaires were returned. From these data, a non-random sample of 90,277 inmates was chosen, representing "48 percent of the total inmate population surveyed" (Brown & Courtless, 1968, p. 1165). The average IQ of the population was 93.2. Using IQ's of 69 or below on recognized IQ tests to define retardation, 9.5% of the sample population was identified as mentally retarded. Of the total sample, 1.6% scored IQ's below 55. Sharp geographic differences were evident in the prevalence figures. In the East South- Central region (i.e., Kentucky, Tennessee, Alabama, Mississippi), 24.3% of the inmates were identified as mentally retarded. The Mountain states revealed the lowest rate, with 2.6% of the inmates reported as mentally retarded.

Analysis of institutional data in the Brown and Courtless survey revealed interesting statistics in regard to the kinds of offenses committed by retarded offenders. In ranking offenses committed by this sample, 38% of the institutions surveyed listed burglary and breaking and entering as the most frequently committed crimes. Thirteen percent ranked homicide as a

frequent occurrence. Crimes against persons, such as homicide, assault, or sexual offenses, were more frequently committed by retarded individuals with IQ's below 55. Of the sample scoring IQ's below 55, approximately 57% had committed crimes against persons. Fifteen percent had committed criminal homicide offenses. At that time, Federal Bureau of Prisons statistics indicated that 24% of all prison inmates were confined for personal offenses and 5.1% were committed for criminal homicide offenses (Brown & Courtless, 1968).

Studies of the relationship between criminality and mental retardation have attempted to explain these statistics (Levy, 1953; Sternlicht & Kasdan, 1976). Although criminality and subaverage intelligence were once equated (Goddard, 1916) this assumption was later replaced by a more benign perspective of retardation (Baller, 1936; Charles, 1953). Arguments regarding retardation and criminality are numerous and varied. Current literature predicts that one's inability to compete in society, because of retardation and associated factors, may be causally related to antisocial behavior (Allen, 1968). "Although there is a paucity of factual information about mental retardation and crime, there has been no shortage of opinions about it through the years" (Allen, 1968, p. 22).

Zeleny (1933) evaluated 163 studies of criminal conduct and "feeblemindedness" completed prior to 1933. Inconsistency in definitions used in these studies resulted in three possible suppositions regarding criminality and retardation. Simply stated, some studies found more mental retardation among criminals than among the general population, while others found the same amount, or less. After equating test scores of these early studies, the author confirmed a 30% incidence rate of "feeblemindedness" among prison

populations.

During the 1940's and 1950's, the literature reflected a reluctance to associate mental retardation and criminality. Studies revealed that retarded individuals committed fewer and less serious crimes than the general public (Jewel, 1941; Thompson, 1941). Santamour and West (1977) described the period from 1921 to 1960 as a period of "denial and neglect" in regard to examining relationships among criminality, retardation, environment, and social values. According to Grigg's (1958) review of research literature, an association between functional intelligence and criminal behavior was noted, although a cause and effect relationship was not established. In light of discrepancies between the 9.5% incidence figure identified in the Brown and Courtless study and the usual 3% prevalence of retardation quoted for the general population, it is important to examine functional intelligence and criminal behavior. "Currently there is less of a reluctance to associate retardation directly with . . . [antisocial behavior]" (Santamour & West, 1977, p. 2).

In examining statistics on types of crimes committed by retarded offenders, studies suggest that characteristics attributed to retarded persons account for some of the criminal behaviors. Grigg (1958) examined the characteristics of crimes committed by retarded inmates and explored the general psychodynamics of the population. A group of 25 "severely retarded," white male inmates from the Virginia State Penitentiary was evaluated. Analysis of the offenses committed by this group revealed three categories of crimes: acts due to the impulsive nature of the offender, illogical acts, and chronic antisocial behavior. Impulsive acts were characterized by lack of control, thought, or foresight. Illogical acts reflected a bizarre quality

in which there was an "absence of highly organized thought patterns" (Grigg, 1958, p. 372) evident in the behavior. Intelligence and poverty were described as associated factors in the problems of chronic antisocial behavior.

Wolfgang (1967) offered a rationale for the high incidence of homicide and "person crimes" among moderately retarded offenders (Santamour & West, 1977). These are crimes committed by individuals who tend to be impulsive. Convictions are easier to obtain for these crimes and sentences are longer. Mentally retarded offenders who commit person crimes "pile up" in institutions. Brown and Courtless (1968) explained that the high incidence of these crimes in the population sample reflects the nature of the maximum security classification of the institutions that were surveyed. Those committing property crimes or lesser offenses may go to other institutions.

Literature considering crimes of mentally retarded offenders indicates that limited cognitive capacity contributes to the committing of illogical or antisocial acts (Grigg, 1958). The inability to perceive the consequences of behavior is a further complicating variable (Haywood, 1981). In addition, factors that are attributed to prison populations in general further influence the chances of this group encountering the correctional system. Retarded prisoners belong to a population that is undereducated, underemployed and poor (Hagerty & Israelski, 1981). Ninety percent of the adult prison population have not completed high school. When considering the needs of the total prison population and given current costs of running criminal justice or correctional programs, differential treatment inevitably occurs both in sentencing and rehabilitation practices (Santamour & West, 1977).

Despite the figures in the Brown and Courtless (1968) study, controversy persists concerning the incidence and prevalence of mental retardation among offenders and regarding types of crimes committed by this population. Discrepancies among estimates of mental retardation are confusing and sometimes misleading for both criminal justice and correctional personnel. The following studies reveal some of these discrepancies.

In 1973, the South Carolina Department of Corrections investigated the nature and extent of retardation in its prison population. Eight percent of state inmates were identified as mentally retarded, and treatment recommendations were made as a result of this study. South Carolina's data did not, however, confirm the 24% offender retardation rate reported in the 1963 survey of four other Southeastern states in the Brown and Courtless (1968) study. In the same year (1973), the Atlanta Association of Retarded Citizens estimated that "27 percent of Georgia's prison inmates have IQ's below 70" (Santamour & West, 1977, p. 17), a figure which supports the Brown and Courtless (1968) study. It has been suggested that differences in these figures reflect differential sentencing patterns, cultural bias in tests, and a variety of criminal justice practices (Allen, 1968).

In 1973, a study entitled Project CAMIO (Haskins & Friel, 1973) surveyed the retarded population of the Texas Department of Corrections. The study identified 10% of Texas adult inmates as retarded. Among other objectives of this extensive project was a limited national survey of the retarded offender population (Rowan, 1976; Santamour & West, 1977). In an effort to provide follow-up data from the 1968 Brown and Courtless study, the project surveyed 81% of the total U.S. state prison population. Within the sample that responded were 84% of the original correctional sample from

the 1963 study. Among other data, the 1973 statistics indicate that "4.1 percent of the current adult male offenders entering correctional facilities were mentally retarded" (Rowan, 1976, p. 664).

Statistics regarding types of crimes committed by retarded offenders add to controversy about associating mental retardation and criminality. The Haskins and Friel (1973) investigation of the most frequent offenses committed by retarded inmates revealed little difference between crimes committed by retarded and nonretarded inmates. The Tennessee Research and Demonstration Project (Dennis, 1976) reported "fewer crimes against persons as intelligence level decreased" (Santamour & West, 1977, p. 8). Kentucky reported that 63.1% of retarded offenders committed "person crimes" (Kentucky, 1975).

It is important to try to account for some of the discrepancies evident in prevalence figures. The 4.1% incidence of retardation (Rowan, 1976) among offenders entering correctional institutions is particularly interesting in light of current controversy regarding IQ testing and the definition of mental retardation.

Changes in the definition of retardation and the means of identifying mild retardation have led to conflicts in prevalence statistics. A significant factor which confounds both the definition of retardation and offender retardation statistics is confusion with respect to what constitutes socio-cultural retardation. It is the deficiency that is variously labeled as mild, socio-cultural, cultural-familial or borderline retardation that often appears in the offender population and is reflected in the 1963 prevalence statistics.

In 1963, Brown and Courtless reported that 40% of their sample scored

IQ's of 85 or less. In the 1973 study (Haskins & Friel), 18% of the adult male offenders entering correctional facilities were borderline mentally retarded. In earlier sections of this paper, numerous factors were described that influence cognitive development and adaptive behavior in relation to mild retardation. It is likely that these factors continue to influence the rate at which borderline and mildly retarded individuals encounter correctional systems (Haywood, 1981).

Two factors are evident in considering the 4.1% rate (Rowan, 1976) of retardation in offenders entering correctional institutions. The incidence of retardation at entry is different from prevalence rates among inmates. Secondly, the administrative artifacts (Santamour & West, 1977) might account for the higher prevalence of retardation in the prisons than in the general population, or in offenders entering correctional institution. As noted earlier, retarded individuals are more likely to enter the correctional system and remain there longer than the general population. The change in the definition of retardation very likely affects the 4.1% incidence figure. Not as many individuals are identified as retarded, but they may, nevertheless, be "learning deficient."

A third factor might eventually change incidence and prevalence rates concerning deficient and exceptional offenders. Changes in educational, social, and mental health perspectives have culminated in the passage of PL 94-142, the social repercussions of which are yet to be determined. Approximately one-half of the states have involved state education departments in implementing PL 94-142 in prison education programs. Despite these efforts, however, implementation of PL 94-142 in correctional educational programs is minimal. Studies have shown that educational and correctional

programs are inadequate to meet the needs of prison inmates in general (Bell, Conard, Laffey, Volz & Wilson, 1977; Bell et al., 1979). It is unlikely, therefore, that significant efforts have been made to address the special needs of handicapped incarcerated populations.

According to Travisono, Executive Director of the American Correctional Association, "retarded in prison are a problem without a program" (DeSilva, 1980, p. 25). Only 1% of U.S. adult and juvenile facilities have programs for mentally retarded offenders. Lack of funding is the primary reason that few correctional facilities attempt to identify exceptional inmates or provide special programs.

In their survey of 160 institutions with 146,622 inmates, Brown and Courtless (1963) revealed a notable lack of services to offenders. Among 160 institutions, the survey listed 14 full-time psychiatrists, and 82 full-time psychologists; one-half of the institutions offered no program for retarded inmate. Pallone (1979) and Bell et al. (1979) confirmed that full-time mental health professionals are not available in the majority of state adult correctional facilities. The Pallone study reported that 87% of the facilities surveyed had no full-time correctional counselors. Among these facilities, 93% employed no psychiatrists, 76% employed no psychologists, and 62% employed no social workers. Bell et al. (1979) reported that in 48% of institutions surveyed, a lack of liaison between educational and treatment staff influenced the effectiveness of the educational programs to some degree.

There is a very practical reason why prison education programs for exceptional offenders should be considered. Wolfenberger (1971) estimated that "the average rehabilitated retarded individual will return $7 to $10 in

income taxes for each dollar spent on his rehabilitation" (Santamour & West, 1977, p. 10). The cost effectiveness of rehabilitation is evident in one special probation program for retarded offenders in Prima County, Arizona (DeSilva, 1980, p. 26). In a one year period, 120 retarded probationers participated in a program of special supportive services. Of the group served, two individuals were returned to prison. The cost of maintaining these individuals in prison was $80 per day, while they could have been maintained in the special program at a rate of $3 per day.

Santamour and West (1977) thoroughly explored problems in programming for special offenders. They described programs that have attempted to meet the needs of exceptional offenders. They listed numerous recommendations for programming and advocacy programs for retarded inmates, and the interested reader may explore these further. Current education programs in prisons may not be geared toward educating and training individuals with learning disabilities or the culturally deprived individual who is functioning at a borderline intellectual level.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

The preceeding chapters presented the reader with an overview of this research project and the prior research which has been done which is relevant to the issues being addressed. In this chapter, the design of the project is discussed in detail along with a brief description of the analytical techniques which were utilized in an attempt to determine the prevalence and the nature of learning deficiencies among the population of incarcerated adults in the state prison systems in the United States.

The chapter is divided into seven sections. The first of these describes the site selection procedures which were utilized. Information on the nine participating institutions is presented and the questions of the generalizability of the results are addressed. In the second section, sampling procedures are discussed. The question of possible sampling bias is raised, and information on initial test results is presented. The third section of this chapter presents a discussion of the variables on which information was gathered. Logical groupings of these variables are introduced. In the fourth section, the instruments used in data collection are discussed and procedural information on the data collection process is presented. The fifth section outlines the research questions under investigation. The sixth section presents a brief discussion of the analysis procedures, and the final section addressos some of the limitations of the study.

As has been stated earlier, there has been little or no previous research which has examined the incidence and nature of learning deficiencies in the adult population in general, or more specifically, in the population

of incarcerated adults. The research which has been done investigating this issue among institutionalized individuals has, by and large, been conducted with juvenile delinquents. (A complete review of these and other relevant studies can be found in Chapter II.) The findings of this previous research have indicated that the proportion of institutionalized juveniles who are learning disabled is significantly greater than the proportion of the general population in the same age group. It certainly could be inferred from this that the same would be true for the population of incarcerated adults, since so many of them are "graduates" of the juvenile justice system. At the inception of this study, however, it was felt that this was too grand an assumption to make. Therefore, the site selection process was designed as a step-wise strategy, allowing for either of two alternate plans dependent on the results of the first stage of the data collection.

Site Selection

Initially, one state was selected for site visits and testing. The state which was chosen was Pennsylvania. Three institutions were identified, two male and one female, as representative of this state's correctional system. The institutions were selected on the basis of size, security status, and type of offender. One of the institutions is a large (N = 2400) maximum security men's prison located outside of Philadelphia (the State Correctional Institution at Graterford). The second men's prison is a medium security institution for younger offenders (N = 1400), located near Harrisburg (the State Correctional Institution at Camp Hill), and the women's institution, the only one in the state, is considered minimum, medium, and maximum security and is located in the north central part of the state (the State Correctional Institution at Muncy). The population in this

institution is generally around 300. Again, these sites were selected to be representative of Pennsylvania's eight state correctional institutions. There are a total of three large maximum security institutions and three medium security institutions for men in the state, one regional treatment center for men who are serving short sentences, and one women's institution.

Once these institutions were identified, contacts were made with the Bureau of Corrections in Harrisburg and with the institutional administrators to ascertain the extent of their willingness to participate in the study. Once everyone concerned had agreed to participate, inmate samples were drawn and data collection was begun at these three sites. The sampling procedure is discussed in the next section of this chapter.

An agreement was made with the National Institute of Justice that all data collection would be conducted in Pennsylvania until a rough estimate of the proportion of learning deficient (LDf) inmates could be determined. This estimate was based on the results of the Tests of Adult Basic Education. Anyone who scored below the fifth grade level on one or more of the six subtests was to be considered learning deficient. It was agreed that, if the number of inmates who were identified as learning deficient constituted less than 25% of those tested, the entire project would be conducted in Pennsylvania, drawing larger samples and concentrating on specific information on the types of learning deficiencies which were found to exist in that state. If, on the other hand, this percentage was 25% or more, two additional states were to be selected in which testing and data collection would be conducted.

The first option cited above represents a case study approach to the questions of interest. The rationale for using this approach, in the event

that the incidence of learning deficiencies was found to be lower than expected, was that the larger sample sizes from one state would ensure that there would be a sufficient number of deficient inmates on whom further screening could be done to ascertain the nature of the learning deficient population. Of course, with this approach the results could only be generalized to the inmate population in the state of Pennsylvania.

The second option proposed the addition of three institutions in each of the two new states selected. The states were to be selected on the basis of regional representativeness and, again, the three institutions within each state were to be chosen on the basis of statewide representativeness. The obvious advantage to utilizing this second plan was that it would enable more generalizability of the results.

In the Spring of 1982, a sample was drawn from each of the three Pennsylvania institutions and the Tests of Adult Basic Education were administered to 307 inmates. The results of these tests are summarized in TABLE 3-1 As can be seen from this table, the percentage of learning deficient inmates did exceed the cut-off point of 25%. Therefore, the additional states were selected.

The two states which were selected were Louisiana and Washington. In each of these states, two male institutions and one female institution were identified as representative in terms of size, security status, and type of institution. Contacts were made with both state and institutional officials to determine willingness to participate and the data collection process was then initiated in these states. Information on the nine institutions which participated in the study is summarized in TABLE 3-2. All nine institutions were located in rural areas.

TABLE 3-1

RESULTS OF THE TESTS OF ADULT BASIC EDUCATION

PENNSYLVANIA*

INSTITUTION	PERCENT BELOW 5TH GRADE LEVEL (LDf)
Graterford (N = 103)	35.9% (N = 37)
Camp Hill (N = 147)	38.8% (N = 57)
Muncy (N = 57)	29.8% (N = 17)

*Subjects who either did not attempt a subtest or who got all items on a subtest wrong are not included in these percentages.

TABLE 3-2

INFORMATION ON INSTITUTIONS IN SAMPLE STATES

	POPULATION	Type	SECURITY STATUS
LOUISIANA			
Angola	4100	Male	Maximum
Hunt	1050	Male	Medium
L.C.I.W.	310	Female	Combination
PENNSYLVANIA			
Graterford	2400	Male	Maximum
Camp Hill	1400	Male	Medium
Muncy	320	Female	Combination
WASHINGTON			
Walla Walla	1200	Male	Maximum
Shelton	1200	Male	Medium
Purdy	190	Female	Combination

Sampling Procedure

Once the state departments of corrections and the institutions had been contacted and had agreed to participate in the study, a random sample of inmates was drawn from each of the institutions. These samples were drawn from lists which were provided by the institutions of all inmates who were expected to be incarcerated at least until the end of 1982. This stipulation was made in an effort to reduce attrition. Computer-generated random numbers were used to select the potential subjects from each institution. Since participation was voluntary, the initial samples were considerably larger than the number of subjects desired. TABLE 3-3 summarizes the information on the numbers drawn and the numbers signed up by state and by institution. It was recognized that the volunteer nature of the study could introduce some bias. Therefore, limited information was collected from the prison records on a sample of those inmates who were originally identified but who chose not to participate. This is discussed in detail in the next chapter.

Site visits were scheduled to each of the nine institutions for the purposes of both identifying volunteers and orienting inmates and institutional staff. During these visits, meetings were held with the potential subjects in small groups. The research project was explained, with particular emphasis on what participation would mean in terms of time and effort, and questions were entertained. Since the project staff was unable to offer any financial incentive for participation, it was basically necessary to appeal to the inmates' altruistic instincts and desire to get out of work. There were, however, two somewhat concrete pay-offs which were offered. The first of these was the fact that inmates would be provided

TABLE 3-3

NUMBERS OF INMATES SIGNED UP FROM ORIGINAL RANDOM SAMPLE

	Number Drawn	Number Signed
LOUISIANA TOTAL	910	416
Angola	350	169
Hunt	350	176
L.C.I.W.	210	71
PENNSYLVANIA TOTAL	662	408
Gratertord	300	154
Camp Hill	250	172
Muncy	112	82
WASHINGTON TOTAL	1026	318
Walla Walla	479	112
Shelton	350	125
Purdy	197	81
TOTAL	2598	1142

with copies of their test results on request. The second, was that a letter of appreciation would be placed in a inmate's file, again on request. Parole and commutation boards frequently consider voluntary participation in some thing such as this when reviewing cases for consideration.

Those inmates who agreed to participate in the research project were given signed letters (see Appendix) briefly explaining the study and providing a guarantee of the confidentiality of all test results. It was explained to them that, although aggregate information would be provided both to the institutions and to the states, each subject would be assigned a code number so that no one could be identified with his or her scores. Additionally, during the orientation meetings, volunteers were required to sign human subject release forms (see Appendix) granting Lehigh University the right to administer tests and to use all results and information gathered for research purposes. These release forms were designed in conjunction with the state officials in each of the three participating states to ensure their appropriateness and thoroughness from a legal perspective.

Definition of the Variables

The term learning deficiency refers to anything which has acted to hinder academic achievement. Operationally, any subject who was found to be functioning at or below the fifth grade level was considered learning deficient. The basic purpose of the study was to determine how many of the individuals in the sample were academically deficient and what specific information could explain these deficiencies. One might hypothesize that deficiencies could be related to a number of factors, including access to formal education, incidence of physical or sensory disabilities, and ability levels. Since, however, this topic area was previously characterized by

such a dearth of information, it was considered important to collect data on as many potentially related variables as was possible and practical given the limitations of time and available resources. Data were collected, therefore, on the following seven groups of variables:

1. Demographic variables. Demographic information collected included the age, race, sex, employment history, and physical condition of subjects.
2. Criminal Justice Variables. This category included the number and types of offenses committed, sentencing information, prior institutional commitments, and juvenile adjudication information.
3. Educational Background Variables. Information was gathered on the number of years of formal education, academic and vocational program participation, previous educational diagnoses and placements, and prior achievement and intelligence test results.
4. Family Background Variables. Data collected in this category included living situation during childhood, death of one or both parents during childhood, the number of siblings, and any childhood problems reported (such as child abuse or drug dependency).
5. Academic Achievement Variables. The tests of Adult Basic Education were administered to subjects to collect information on academic achievement levels.
6. Ability Variables. The Wechsler Adult Intelligence Test-Revised was administered to subjects in order to collect information on ability levels. An adaptive behavior checklist was also used to address the issue of adaptive behavior as a component of mental retardation.

7. Disability Variables. Selected subtests of the Mann-Suiter Learning Disabilities Screening Tests were administered to subjects who were identified as learning deficient to ascertain whether there was any indication of a specific learning disability.

The issue of adaptive behavior and the instrument selected to address this issue warrant some comment. It is generally agreed that there is a necessity to incorporate a measure of adaptive behavior in the diagnosis of mental retardation which is hindered by some ambiguities in the definition and by a lack of any reliable instrument for measuring adaptive behaviors. The two critical factors considered in all definitions appear to be the level of personal independence and the degree of social responsibility expected. The nature of the population under examination in this study, to some extent, confounds any easy examination of these two factors. A prison inmate's personal independence has been limited, ipso facto, by his or her incarceration. The inmate's personal independence has been severely restricted by society as a punitive action. The fact that he or she has been found guilty of a crime which warrants removal from society indicates that his or her sense of social responsibility is suspect at least. Adaptation to the institutional setting then becomes a doubly confounding factor. Care must be taken, therefore, in using data collected via the Adaptive Behavior Checklist (see Appendix). Consequently, it would appear that collection of information other than for corroboration of mental retardation by any measure of adaptive behavior would be inappropriate. The AAMD Adaptive Behavior Scale--Institutional Version was initially selected for this study because it was the only scale available which was designed for an institutional population. It was quickly found, however, not only

that many of the questions were irrelevant for this study, but also that the nature of many of the items predetermined that everyone in the sample would have been found to have deficits in adaptive behavior had this scale been used in its published form. Given the fact that the adaptive behavior measure was included in the study as a means of corroborating indications of mental retardation based on the results of the WAIS-R, it was felt that this purpose would be defeated if the scale were used in its entirety. Therefore, the Adaptive Behavior Checklist (a modification of the AAMD Adaptive Behavior Scale) was developed by the project staff to assess those skills which were felt to be relevant in addressing the issue of adaptive behavior as a component of mental retardation. The complete AAMD Adaptive Behavior Scale Checklist can be found in the appendix.

Data Collection Instruments and Procedures

Data were collected during site visits to the nine institutions. The following instruments were used in the process:

The Tests of Adult Basic Education (TABE)

These tests were used to obtain a measure of academic achievement and to identify the learning deficient inmates. They were administered to all available subjects. The TABE (Level M, 1976 edition) are achievement tests in reading, mathematics and language and are adapted from the 1970 edition of the California Achievement Test. They are used "to provide pre-instructional information about a student's level of achievement in the basic skills" (CTB/McGraw-Hill, 1976, p. 2) and to diagnose areas of weakness. The Technical Report on the tests cites a correlation of .56 between the Test of General Education Development (GED) and the TABE. Internal consistency reliabilities on Level M, Form 4 were assessed using the Kuder-

Richardson Formula 20 and the resulting coefficients range from .81 to .96 for the subtests and the coefficients for the total battery are .97 and .98 depending on the grade level. A special machine readable answer sheet was designed by the project staff with permission of CTB/McGraw-Hill, publishers of the test.

The Wechsler Adult Intelligence Scale-Revised (WAIS-R)

This test was used to measure the ability levels of all available subjects as well as to identify those subjects who may be mentally retarded. The WAIS-R (revised in 1981) is an individually administered battery composed of six verbal and five non-verbal subtests which yield Verbal, Performance and Full Scale IQs. The test was normed on a sample which was stratified in terms of age, sex, race, geographic region, occupation, education, and residence. The reliabilities for all three IQ's have average coefficients of .97, .93, and .97 respectively.

The Mann-Suiter Learning Disabilities Screening Tests

Selected subtests wer used to identify possible learning disabilities (LD) in all subjects who scored at or below the fifth grade level on any one or more of the subtests of the TABE. Those subtests that were designed to identify individuals who have possible visual or auditory disabilities were the following:

* Visual Motor
* Visual Discrimination
* Visual Closure
* Visual Memory
* Auditory Discrimination

* Auditory Closure

* Auditory Memory

The Adaptive Behavior Checklist

This checklist was derived from the American Association of Mental Deficiencies (AAMD) Adaptive Behavior Scale—Institutional Version. The AAMD Adaptive Behavior Scale was modified to be more appropriate in this setting.

The Learning Deficiencies Project Data Collection Form

This seven-page data collection form was used to record background information which was gathered from institutional records for all available subjects (see Appendix).

The Learning Deficiencies Project Interview Form

This one page interview form was completed by project staff during the administering of the WAIS-R. Areas covered included educational background information and information on the individual's record (see Appendix).

Due to the constraints imposed by limited time, money and personnel, it would not have been feasible for the Lehigh University staff to personally administer all of the tests in each of the three states. Travel expenses alone would have been prohibitive. For this reason, much of the testing was subcontracted with Louisiana State University, the University of Washington, and Washington State University which were near the institutions where the data were being collected. Doctoral students in the psychology departments of these universities, all of whom had received previous training in psychological testing including WAIS-R administrating and scoring procedures, administered all WAIS-R's and TABE'S in both Louisiana and Washington. In Pennsylvania, the project staff administered all TABE's and local psycholo-

gists were hired to administer the WAIS-R. All doctoral students who were involved were trained by the project staff in administration procedures for the TABE and were supervised by their respective university faculty in the WAIS-R administration and scoring. In addition, selected students from the Louisiana State University in Baton Rouge assisted in the administration of the Mann-Suiters and the Adaptive Behavior Checklists. Training and supervision was provided by the Lehigh University staff for these instruments. All other information was gathered directly by the Lehigh staff. TABLE 3-4 presents information on the total numbers of inmates on whom each of the data collection procedures was completed.

Research Questions

In order to address the issues which were discussed in the first chapter, the research team posed the following research questions:

1. Is there any indication of systematic bias introduced as a result of the voluntary nature of this research?
2. What is the nature of the sample in terms of background and demographic characteristics?
3. What percent of the sample is learning deficient and how does this compare to the general population?
4. What is the distribution of intelligence among the target population and to what extent does it compare to that of the norming sample for the WAIS-R?
5. What is the distribution of specific types of learning deficiencies in the adult offender population and how does this compare to the distribution in the general population?

TABLE 3-4

DATA COLLECTION PROCEDURES COMPLETED

	TABE	WAIS-R	Mann-Sulter	Adaptive Behavior	Data Collection Form	Total Tested
LOUISIANA TOTAL	283	316	106	56	375	335
Angola	123	107	52	19	165	124
Hunt	92	143	37	24	143	143
L.C.I.W.	68	66	17	13	67	68
PENNSYLVANIA TOTAL	270	248	94	18	389	305
Graterford	67	86	31	8	138	86
Camp Hill	147	111	54	9	172	154
Muncy	56	51	9	1	79	65
WASHINGTON TOTAL	174	196	37	5	301	211
Walla Walla	49	77	8	0	109	84
Shelton	71	66	20	2	121	71
Purdy	54	53	9	3	71	56
TOTAL	727	760	237	79	1065	851

6. What is the nature of the relationship between certain background and demographic variables and academic achievement levels among incarcerated adults?
7. What is the nature of the relationship between certain background and demographic characteristics and intelligence levels among incarcerated adults?
8. What is the nature of the relationship between background and demographic variables and the incidence of learning deficiencies among the adult offender population?

Analysis Procedures

There are two basic types of research questions which were of interest in this study. The first of these (questions 1-5) are descriptive in nature. The second type (questions 6-8) are questions of relationship. Statistical procedures for addressing the descriptive questions are relatively straightforward. The questions of relationship, however, are somewhat more complex. The first problem is that, due to the exploratory nature of this research, the number of independent variables which need to be investigated is prohibitively large to be considered simultaneously. It was decided therefore, that subsets of potential predictors should be analyzed separately and that the best predictors from each subset should then be combined for the overall analyses. Multiple regression procedures were chosen for these analyses. The initial regression analyses were conducted using the following categories of variables:

1. Background and Demographic Variables
   a. Age
   b. Sex

c. Ethnic Background

d. Primary Source of Income (Prior to Incarceration)

e. Incidence of Physical Problems Reported

f. Family Background

g. Childhood Problems

h. Highest Grade Completed

2. Criminal Justice Variables

a. Total Number of Offenses

b. Type of Offenses

c. Maximum Sentence

d. Prior Institutionalization Reported

Four regression analyses were conducted for each of these two categories of independent variables. The first of these used academic achievement level for the entire sample as the dependent variable. The second analysis was designed to determine the nature of the relationships between the independent variables and Full Scale IQ, again for the total sample, and the third group of analyses were done separately for the learning deficient and the non-learning deficient inmates in the sample, using the total TABE score as the dependent variable. Step-wise regression techniques were used for all of these analyses.

The second major problem was related to the nature of the independent variables. As can be seen from the list above, the independent variable set is made up of a combination of discrete and continuous variables. It was, therefore, necessary to create dummy variables to represent all of the discrete variables in a given analysis. The analytical techniques used are discussed in greater detail in the following chapter.

Limitations of the Study

Many of the problems encountered during the course of this research were related to a lack of researcher control over a number of factors inherent in the correctional system. One problem was directly related to the lack of incentive for participation. Some of the inmates who agreed to take part in the study did not show up for scheduled testing sessions because, in certain institutions, they lost their institutional pay for time spent taking the tests. Additional problems were caused by the fact that any inmates who were in administrative lock-up were not allowed out of their cellblocks for testing. Also, even though the list from which the original sample was drawn was supposed to include only those inmates who were expected to remain in the institutions for the duration of the data collection process, unexpected transfers, releases, deaths and escapes reduced the sample size considerably.

Another problem was that it was necessary to work around institutional schedules in setting up the group and individual testing sessions. Often an individual had to be scheduled several times before he or she reported for testing. This caused problems in that the entire data collection process was exceedingly lengthy and difficult.

Data collection was also hampered by the fact that much of the information of interest was simply not available in the institutional records. Inconsistencies in reporting procedures among the individual institutions and states contributed to this difficulty as well. Even when information was available, it was often reported in different forms in the different institutions, leading to definition and interpretation problems. Each of the limitations cited above is discussed in greater detail in the final chapter

of this report, as it relates to the recommendations for future research.

CHAPTER IV

ANALYSIS OF THE DATA

In the preceeding chapter, the research questions which were addressed in this study were presented and the analysis procedures utilized were briefly discussed. In this chapter, the results of these analyses are presented, in detail, together with some of the conclusions which can be drawn from the findings. The discussion is divided into five sections. In the first of these, comparative information is presented on the participants and the non-participants. This is done in order to address the question of possible sampling bias related to to the fact that participation in the study was voluntary. The second section is basically descriptive and addresses the general questions regarding the nature of the sample. Sample means and frequency distributions are presented on the background and demographic variables which were investigated. All information in this section is provided by race, by sex, and by state. Additionally, descriptive information is presented separately for the learning deficient and the non-learning deficient inmates in the sample (by group).

The third major section of this chapter summarizes the results of the tests and other instruments which were used to identify learning deficiencies among the subjects. Data are discussed regarding the questions of the incidence and the nature of the deficiencies examined. Again, all information is presented by race, sex, state, as well as group.

The fourth section of the chapter addresses the research questions regarding the relationships between the background and demographic characteristics of the sample and academic achievement and ability measures. The nature of these relationships is investigated separately for the learning

deficient and the non-learning deficient inmates in the sample. Additionally, all data are presented by race, sex, and state.

The fifth and final section of this chapter presents a discussion of the results of the analyses as they relate to the research questions posed earlier. Some conclusions and implications of these findings are presented briefly in this context. A more in depth discussion of the findings as they relate to future research, policy, and program design needs is presented in the last chapter of this report.

Comparative Information - Participants and Non-participants

One of the potential problems which exists in any research which depends on the voluntary participation of the subjects is the introduction of sampling bias. Even when the original sample has been drawn at random, there is a distinct possibility that the self-selection process will introduce some type of systematic bias into the characteristics of the final group of subjects.

This potential problem was of special concern in this project because of the nature of the research. If an inmate chose to participate, he or she was asked to take at least two standardized tests: the Test of Adult Basic Education and the Wechsler Adult Intelligence Scale--Revised. In addition, it was explained to all potential subjects, some individuals would be called for one or two other sessions to complete the Mann-Suiter Learning Disabilities Screening Tests and/or the Adaptive Behavior Scale. Given the fact that many of these individuals have had relatively little experience or success with formal education, this request could conceivably have posed a threat to the very people that the research was designed to assess. In other words, if any bias as introduced, it was expected that the higher

achievers would, in general, be more willing to participate than would the lower achievers. Therefore, the number of inmates identified as learning deficient (LDf) would not be representative of the true incidence in the population of interest.

In an attempt to ascertain whether such sampling bias was, in fact, introduced, certain information was gathered on a randomly selected group of those inmates who were in the original sample but who either did not attend the orientation sessions or who attended but chose not to participate. The information collected on these individuals consisted of ethnic background, achievement test scores, and intelligence test scores. All data on the non-participants was gathered from the institutional records. In order to increase the comparability of the information, comparisons were made, not with test scores from the TABE and the WAIS-R, but with the recorded information on the participants which was summarized on the project data collection form.

TABLE 4-1 on the following page presents the intelligence test information for the participants and the non-participants. It should be noted that the racial breakdowns for the two groups are not noticeably different, with Caucasians making up 43% of the participant group and 44% of the group of non-participants. This is encouraging because it indicates that the process of self-selection was not related to ethnic background.

A careful inspection of TABLE 4-1 shows that, for the total sample, there is some evidence that a bias was introduced by the self-selection process. The average full scale intelligence quotient for the non-participants ($\bar{X}$ = 88.33) is almost three points lower than that of the participants ($\bar{X}$ = 91.18). In addition, it can be seen by looking at the confidence in-

TABLE 4-1

COMPARISON OF INTELLIGENCE TEST SCORES

FOR PARTICIPANTS AND NON-PARTICIPANTS

		Participants				Non-Participants	
				95% C.I.			
		Mean	N	Lower	Upper	Mean	N
RACE	Caucasian	97.02	318	95.33	98.72	96.29	183
	Minority	86.78	422	85.44	88.11	81.72	237
SEX	Male	91.22	652	90.02	92.42	88.51	300
	Female	90.90	88	87.94	93.86	88.86	176
STATE	LA	85.02	216	82.92	87.16	81.49	176
	PA	88.96	255	87.21	90.71	88.50	137
	WA	98.23	269	96.62	99.85	96.45	163
TOTAL SAMPLE		91.18	740	90.07	92.29	88.33	476

terval, that this is a statistically significant difference at the .05 level of significance. Unfortunately, as was anticipated, the difference indicates that there was a tendency for the more intelligent inmates to volunteer. It should be noted, however, that although the difference is statistically significant, the magnitude of the point spread is not very large. The Revised Beta, which is the intelligence test from which these scores were taken, has a standard deviation of 15 (Kellogg & Morton, 1957). Therefore, this difference of 2.85 points represents only about one fifth of a standard deviation, which does not seem to be cause for great concern. It should be kept in mind, however, that the estimates of the numbers of mentally retarded inmates which are presented later in this chapter may be slightly lower than the true incidence in the population of interest due to this sampling bias.

A comparison of reading achievement test scores for the participants and the non-participants is presented in TABLE 4-2. Although these tests results were all taken from the institutional records, they do come from different tests. Both Louisiana and Pennsylvania generally administer the Wide Range Achievement Test to all inmates upon reception to the criminal justice system, while Washington uses the California Achievement Test. As can be seen from the within state comparisons, however, there are no significant differences between the two groups in any of the three states. In fact, the only statistically significant difference in the comparisons presented in TABLE 4-2 is for the female subjects and this difference is so small that it could easily be attributed to rounding error. Therefore, it is felt that there is no evidence, based on these comparisons, that there was any systematic bias introduced into the sample in the area of reading

TABLE 4-2

COMPARISON OF READING ACHIEVEMENT TEST SCORES

FOR PARTICIPANTS AND NON-PARTICIPANTS

		Participants		95% C.I.		Non-Participants	
		Grade Level	N	Lower	Upper	Grade Level	N
RACE	Caucasian	9.1	332	8.7	9.4	9.1	177
	Minority	6.7	454	6.4	7.0	6.0	233
SEX	Male	7.5	663	7.3	7.8	7.3	258
	Female	8.5	123	8.0	9.0	7.8	197
STATE	LA	6.1	182	5.6	6.5	5.9	156
	PA	7.4	344	7.1	7.7	7.1	139
	WA	9.2	260	8.8	9.6	9.5	160
TOTAL SAMPLE		7.7	786	7.4	8.0	7.6	455

achievement.

The comparisons between the participants and the non-participants on math achievement are presented in TABLE 4-3. The tests used for assessing mathematical skills were the same as those used to assess reading achievement. In this case, there do appear to be noticeable and consistent differences between the two groups. The participants in all categories scored higher in math than did the non-participants, and in all but two categories these differences were found to be statistically significant. In other words, there is a clear indication that some bias, in the direction which had been anticipated, was introduced into the sample in the area of math achievement. In light of the evidence, therefore, it is again emphasized that the results in this study may represent an underestimate of the true numbers of learning deficient inmates in the population of interest. Since only grade level equivalents were available on these two groups, standard score comparisons could not be made, although this would have led to more meaningful information because of the fact that the results came from a variety of standardized tests.

Description of the Sample

One of the major purposes of this research was to examine the nature of the sample in terms of certain background and demographic characteristics. Information was collected on the ethnic background, the employment history, the physical condition, the criminal justice history, the educational background, and the family history of the approximately 1000 inmates in the sample. Most of this information was gathered on the project data collection form (see Appendix) from the institutional records. In addition, however, certain self-reported information was collected during testing ses-

TABLE 4-3

COMPARISON OF MATH ACHIEVEMENT TEST SCORES

FOR PARTICIPANTS AND NON-PARTICIPANTS

		Participants		95% C.I.		Non-Participants	
		Grade Level	N	Lower	Upper	Grade Level	N
RACE	Caucasian	7.1	323	6.8	7.4	6.4	177
	Minority	5.0	423	4.8	5.2	4.3	209
SEX	Male	6.0	630	5.7	6.2	5.8	249
	Female	5.8	88	5.3	6.2	5.1	195
STATE	LA	4.9	154	4.5	5.1	4.4	146
	PA	5.3	337	5.1	5.5	5.1	137
	WA	7.4	225	7.0	7.8	6.9	161
TOTAL SAMPLE		5.9	746	5.7	6.1	4.6	444

sions (see Appendix). Much of this information was duplicated in the data collection form. This overlap was intentional and was done to provide a means of checking the reliability of the data. It was discovered, however, that most of the information in the institutional records was also based on self-report. In addition, there were frequently conflicting reports in the records themselves. For this reason, although the research team is confident that every reasonable attempt was made to check on the reliability of the data, it is still likely that some of the information is somewhat less than accurate. Copies of the forms used for data collection can be found in the Appendix.

All of the information in this section is presented in terms of means and/or frequencies. Although comparisons are made by race, sex, state, and group, no tests of significance were done. Due to the large sample sizes, almost any small difference between the means of two groups would have been statistically significant. This would not necessarily indicate, however, that these differences are important. For this reason, it was decided that the importance of any differences found among groups in the descriptive data was more appropriate to discuss than the statistical significance of these differences.

Demographic Variables

The ethnic breakdown of the sample is presented in TABLE 4-4. As can be seen from this table, more than 97% of the sample are either Afro-American or Caucasian. Because the number of subjects in each of the other ethnic groups was so small, it was decided that the categories should be collapsed to create a dichotomous variable. Since, in the general population (United States Census), Caucasians make up the majority (83%), the

TABLE 4-4
ETHNIC BACKGROUND

		Afro-American	Caucasian	Hispanic	Mexican	Indian	Asian	Other
SEX	Male	N = 92 58%	N = 335 39%	N = 7 .8%	N = 5 .6%	N = 9 1%	N = 1 .1%	N = 1 .1%
	Female	N = 85 44%	N = 102 53%	N = 1 .5%	N = 0 --	N = 3 1%	N = 2 1%	N = 0 --
STATE	LA	N = 264 69%	N = 120 31%	N = 1 .3%	N = 0 --	N = 0 --	N = 0 --	N = 0 --
	PA	N = 243 68%	N = 111 31%	N = 3 .6%	N = 0 --	N = 0 --	N = 2 .6%	N = 0 --
	WA	N = 70 23%	N = 206 69%	N = 4 1%	N = 5 2%	N = 12 4%	N = 1 .3%	N = 1 .3%
GROUP	LD	N = 214 70%	N = 83 27%	N = 3 1%	N = 2 .7%	N = 1 .3%	N = 2 .7%	N = 0 --
	NON-LD	N = 185 43%	N = 235 55%	N = 0 --	N = 1 .2%	N = 4 .9%	N = 0 --	N = 1 .2%
TOTAL SAMPLE		N = 577 55%	N = 437 42%	N = 8 .8%	N = 5 .5%	N = 12 1%	N = 3 .3%	N = 1 .1%

categories used were Caucasian and Minority. All non-Caucasian subjects were included in the Minority category. This dichotomous categorization was used in all subsequent analyses.

An inspection of the information in TABLE 4-4 indicates that there are notable regional differences in the ethnic breakdown of the sample. The Louisiana and Pennsylvania samples are both about 70% minority group members while the Washington sample is about 70% Caucasian. Dramatic differences are also seen between the learning deficient and the non-learning deficient groups, with the former being approximately 73% minority and the latter about 55% Caucasian. It will be seen in later discussions that these differences present some difficulties in interpreting the results of some analyses. It is felt, however, that they represent, at least in the case of regional differences, true differences in the population.

The average age of the inmates in the sample is presented in TABLE 4-5, by race, sex, and state. This information is also presented separately for the learning deficient and the non-learning deficient inmates in the sample. It is interesting to note that there do not appear to be any meaningful differences in the average age in any of the categories considered, even though three of the institutions in the sample were primarily for younger offenders. Clear differences in age can, of course, be seen if one looks at the individual institutions. This information is summarized in the Appendix. The average for this sample ($\bar{X}$ = 30.3) is comparable to United States Census figures which indicate that the national median age is 30.0 (28.8 for males; 31.3 for females).

TABLE 4-6 presents information on the primary language spoken in the subjects' homes during childhood. This information was collected during the

TABLE 4-5

AVERAGE AGE OF THE SUBJECTS

		Mean	Standard Deviation	N
RACE	Caucasian	30.028	9.033	432
	Minority	30.429	8.010	601
SEX	Male	29.919	8.386	838
	Female	31.733	8.593	195
STATE	LA	30.096	7.375	384
	PA	30.220	8.515	355
	WA	30.527	9.630	294
GROUP	LDf	29.833	8.600	303
	NON-LDf	30.260	8.164	423
TOTAL SAMPLE		30.261	8.451	1033

TABLE 4-6

PRIMARY LANGUAGE IN HOME

		English	Spanish	Other	Combination
RACE	Caucasian	285 93%	2 .6%	4 1%	17 6%
	Minority	414 93%	9 2%	3 .6%	19 4%
SEX	Male	540 92%	10 2%	6 1%	28 5%
	Female	159 94%	1 .6%	1 .6%	8 5%
STATE	LA	297 95%	0 -	1 .3%	14 4%
	PA	232 94%	7 3%	5 2%	3 1%
	WA	170 88%	4 3%	5 .5%	3 1%
GROUP	LDf	231 92%	8 3%	2 1%	11 4%
	NON-LDf	354 94%	1 .3%	4 1%	18 5%
TOTAL SAMPLE		699 93%	11 1%	7 1%	36 5%

testing sessions. An inspection of this table shows that the vast majority (93%) of the sample was raised in homes in which English was the primary language used. In addition, 5% reported that a combination of languages was spoken, of which English was generally one. The percentages in the other two categories are so small that it is felt that this variable is highly unlikely to contribute anything to any subsequent analyses. Therefore, the variable was eliminated from consideration as a possible predictor of ability and achievement measures.

The information on the employment history (primary source of income prior to incarceration) of the sample is summarized in TABLE 4-7. It can be seen that close to 50% of the sample fell into the first two categories, Never Employed and Occasional Jobs. Of the remaining 50%, a high percentage (84%) were classified as either laborers or semi-skilled workers. Again, therefore, the six categories were collapsed into two. The first of these included those subjects either who were never employed or who had held a variety of short term or occasional jobs. The second category included all those subjects for whom a consistent work history of any kind was reported.

TABLE 4-8 presents the information which was collected on the incidence of physical problems reported for the inmates in the sample. All of these data were gathered from the institutional records and it should be noted that there was very little consistency in the availability of the information in this area. This may, in part, explain the high percentage of the subjects (80%) who fall into the first category, No Problems. Regardless of this, it is felt that the number of individuals who fall into each of the specific problem categories is so small that it would be inappropriate to maintain the original breakdown for subsequent analyses. For this reason,

TABLE 4-7
PRIMARY SOURCE OF INCOME PRIOR TO INCARCERATION

		Never Employed	Occasional Jobs	Laborer	Semi-Skilled	Skilled	Professional
RACE	Caucasian	53 12%	155 36%	94 22%	81 19%	39 9%	8 2%
	Minority	94 16%	199 32%	130 22%	136 22%	33 6%	7 1%
SEX	Male	104 12%	258 31%	216 26%	192 23%	57 7%	13 2%
	Female	43 23%	96 51%	9 5%	25 13%	15 8%	2 1%
STATE	LA	40 11%	76 20%	103 27 %	121 32 %	36 10%	2 .5%
	PA	75 21%	153 43%	52 15%	46 13%	21 6%	8 2%
	WA	32 11%	125 42%	69 23%	50 17%	15 5%	5 2%
GROUP	LDf	44 15%	103 34%	75 25%	58 19%	18 6%	1 .3%
	NON-LDf	57 14%	147 35%	82 20%	86 21%	33 8%	14 3%
TOTAL SAMPLE		147 14%	354 34%	224 22%	217 21%	72 7%	15 1%

TABLE 4-8
INCIDENCE OF PHYSICAL PROBLEMS REPORTED

		No Problems	Sensory Problems	Serious Illness	Serious Accident	Neurologic Problems	Other Problems	Combined Problems
RACE	Caucasian	321 74%	42 10%	4 .9%	3 .7%	8 2%	23 5%	31 7%
	Minority	504 83%	45 7%	5 .8%	2 .3%	2 .3%	16 3%	30 5%
SEX	Male	706 84%	82 10%	6 .7%	5 .6%	8 1%	28 3%	9 1%
	Female	119 62%	5 3%	3 2%	0 -	2 1%	11 6%	52 27%
STATE	LA	361 94%	5 1%	6 2%	2 .5%	3 .8%	1%	1 .3%
	PA	225 53%	66 19%	1 .3%	1 1	0 -	8 2%	53 15%
	WA	239 80%	16 5%	2 .7%	2 .7%	7 2%	26 9%	7 2%
GROUP	LDf	238 79%	29 10%	3 1%	2 7%	8 3%	4 1%	18 6%
	NON-LDf	320 76%	49 12%	5 1%	1 .2%	1 .2%	21 5%	25 6%
TOTAL SAMPLE		825 80%	87 8%	9 .9%	5 .5%	10 1%	39 4%	61 6%

this variable was dichotomized, the two levels being identified as No Problems and Problems.

Family Background Variables

Another category of background data investigated was that of the family background of the inmates. As can be seen through an inspection of the data collection form in the Appendix at the end of this report, information was collected initially on a wide range of family background events, including whether the individual was raised in an intact family, a broken home, by one or the other parent as a single parent, in an institutional environment, a foster home, a group home, or in some other environment.

During the data collection process, it was quickly seen that the majority of subjects had been raised in some combination of these environments. For this reason, the variable of family situation was coded with only three categories. These were Stable Home, Unstable Home, and Institution. An individual was classified as having been raised in a Stable Home if the only situation which was reported was an intact family. Any combination of situations, such as someone who was born into a stable home, but whose parents later divorced, was classified as Unstable. The third category, "Institution," took precedence over both of the first two. In other words, if an individual was raised in either a stable or an unstable home but was institutionalized for a time during childhood, that individual was placed in the third category.

TABLE 4-9 presents the information on family background. For the analyses, these categories were collapsed even further. The 12% for whom no information was reported were eliminated and the 9% who were institutionalized were combined with the 51% for whom an unstable background was indi-

TABLE 4-9

FAMILY SITUATION DURING CHILDHOOD

		None Reported	Stable Home	Unstable Home	Institution
RACE	Caucasian	41 9%	148 34%	190 44%	56 13%
	Minority	88 14%	140 23%	345 57%	34 6%
SEX	Male	83 10%	249 29%	445 52%	73 9%
	Female	46 24%	39 20%	90 46%	19 10%
STATE	LA	116 30%	101 26%	152 39%	17 4%
	PA	7 2%	121 34%	215 60%	15 4%
	WA	6 2%	66 22%	168 56%	60 20%
GROUP	LDf	46 15%	74 24%	161 53%	24 8%
	NON-LDf	58 14%	130 31%	203 48%	35 8%
TOTAL SAMPLE		129 12%	288 28%	535 51%	92 9%

cated. According to this new catagorization, 31.48% of those on whom information was available were raised in stable environments and 68.52% were raised in an unstable environment.

Information was collected from the institutional records on whether it was reported that one or both of the subject's parents had died during the subject's childhood. This information was gathered because, in examining the records in Pennsylvania, the first state in which data collection was conducted, it was noted by the project staff that there appeared to be an unusual number of cases in which it was reported that the individual had lost one or both parents relatively early in life. As can be seen from an inspection of TABLE 4-10, this was the case in Pennsylvania, with a total of about 17% of the sample reporting that one or both of their parents were deceased.

If one looks at the total sample, however, it can be seen that the incidence drops to about 10%. It is interesting to note that there are substantial differences between the learning and non-learning deficient groups in these incidence figures, with the former reporting the death of one or both parents in 13% of the cases and the latter only in 8%. Unfortunately, it is not known how accurate these data are, since the only information available was that which had been voluntarily provided by the inmates during their initial classification interviews. Although the percentages do seem high, it was decided that, due to the inconsistency in the availability of this information, this variable should be eliminated from all subsequent analyses.

Similarly, the information presented in TABLE 4-11 on the average number of siblings was not utilized in the analyses. Initially, the intention

TABLE 4-10

DEATH OF PARENT(S) REPORTED

		None Reported	One Parent	Both Parents
RACE	Caucasian	404 93%	26 6%	4 .9%
	Minority	533 88%	63 10%	13 2%
SEX	Male	753 88%	81 10%	17 2%
	Female	184 96%	8 4%	0 -
STATE	LA	362 94%	21 5%	3 .8%
	PA	298 83%	48 14%	13 4%
	WA	277 93%	20 7%	1 .3%
GROUP	LDf	264 87%	34 11%	6 2%
	NON-LDf	391 92%	29 7%	5 1%
TOTAL SAMPLE		937 90%	89 9%	17 2%

TABLE 4-11

NUMBER OF SIBLINGS

		Mean	Standard Deviation	N
RACE	Caucasian	3.53	2.76	398
	Minority	4.97	3.25	531
SEX	Male	4.36	3.09	772
	Female	4.34	3.33	157
STATE	LA	4.70	2.85	310
	PA	4.52	3.28	336
	WA	3.78	3.18	280
GROUP	LDf	4.94	3.41	259
	NON-LDf	3.96	2.94	377
TOTAL SAMPLE		4.36	3.13	929

was to collect information on the inmate's birth order, since a great deal of research has been done on one's position in the family as it relates to individual characteristics. Unfortunately this information was not found to be available on a consistent basis in either Louisiana or Washington. Data on the number of siblings were substituted but there were so many cases of broken homes in which numerous step, half, and foster siblings were reported that it was decided that this information was only useful in a descriptive sense.

TABLE 4-12 presents information on the incidence of childhood problems which was reported in the institutional records. It should be noted that the individuals in the final category, Combination of Problems, most often were both drug and alcohol abusers. In general, about 50% of the sample had a history of some childhood problems. For the purposes of the analysis, the categories of this variable were collapsed into two, the first of these including those for whom no problems were reported and the second including those for whom any one or combination of problems was noted in the records.

Educational Variables

Information on the educational and vocational backgrounds of the inmates in the sample was collected both from the institutional records and during testing sessions. As was stated earlier, some of this information was collected twice. In the cases where this was done, both self-report data and data from the records are summarized in one table in order to facilitate comparisons.

The information on the highest grade completed is presented in TABLE 4-13. Because of the inconsistency in the availability of this information in the institutional records, this was one of the questions which was asked in

TABLE 4-12
CHILDHOOD PROBLEMS

		None Reported	Abused	Runaway	Suicidal	Drug Abuse	Alcohol Abuse	Combination
RACE	Caucasian	165	29	21	10	70	15	125
		38%	7%	5%	2%	16%	3%	29%
	Minority	357	11	11	4	132	22	70
		50%	2%	2%	.7%	22%	4%	12%
SEX	Male	444	28	16	10	169	34	147
		52%	3%	2%	1%	20%	4%	17%
	Female	78	12	16	4	33	3	48
		40%	6%	8%	2%	17%	1%	25%
STATE	LA	289	6	7	2	53	11	18
		75%	2%	2%	.5%	14%	3%	5%
	PA	145	8	5	6	108	11	73
		41%	2%	1%	2%	30%	3%	22%
	WA	88	26	20	6	41	15	104
		29%	9%	7%	2%	14%	5%	35%
GROUP	LDf	167	8	5	4	60	12	49
		55%	2%	1%	1%	20%	4%	16%
	NON-LDf	208	17	17	6	83	11	84
		55%	4%	4%	1%	20%	2%	20%
TOTAL SAMPLE		522	40	32	14	202	37	195
		50%	4%	3%	1%	19%	4%	19%

TABLE 4-13

HIGHEST GRADE COMPLETED

		Current Sentence	Juvenile
RACE	Caucasian	$\bar{X}$ = 10.2 s = 1.97 N = 422	$\bar{X}$ = 10.6 s = 2.38 N = 288
	Minority	$\bar{X}$ = 9.9 s = 2.03 N = 579	$\bar{X}$ = 10.1 s = 2.32 N = 435
SEX	Male	$\bar{X}$ = 9.9 s = 2.04 N = 808	$\bar{X}$ = 10.2 s = 2.38 N = 563
	Female	$\bar{X}$ = 10.4 s = 1.83 N = 193	$\bar{X}$ = 10.7 s = 2.23 N = 160
STATE	LA	$\bar{X}$ = 9.8 s = 2.19 N = 369	$\bar{X}$ = 9.7 s = 2.27 N = 302
	PA	$\bar{X}$ = 10.0 s = 1.63 N = 337	$\bar{X}$ = 10.4 s = 2.05 N = 241
	WA	$\bar{X}$ = 10.3 s = 2.13 N = 295	$\bar{X}$ = 11.2 s = 2.58 N = 180
GROUP	LDf	$\bar{X}$ = 9.4 s = 1.83 N = 289	$\bar{X}$ = 9.3 s = 2.19 N = 244
	NON-LDf	$\bar{X}$ = 10.3 s = 2.13 N = 413	$\bar{X}$ = 11.0 s = 2.18 N = 357
TOTAL SAMPLE		$\bar{X}$ = 10.0 s = 2.01 N = 1001	$\bar{X}$ = 10.3 s = 2 36 N = 723

the interview. The information from both of these sources is presented. It should be noted that the mean for the total sample is essentially the same in both cases. The slight difference which is seen in TABLE 4.13 can be attributed to the fact that the number of inmates in each group is different. The scale which was used in reporting these results was based on total years of formal education, not counting repeated grades. Any college experiences were added to the highest grade. In other words, an inmate who had completed two years of college would have a value of 14 on this variable.

According to the 1980 United States Census Report, white males nationally have completed an average of 12.2 years in school. Black males have completed 10.5 years; white females have completed an average of 11.8 years, and black females have completed 10.6. Although the means from this prison sample may be different from the national averages, it is interesting to note that relative differences by race and by sex are quite consistent with national data.

TABLE 4-14 presents information which was collected during the testing sessions on the highest level of schooling for the inmates in the sample. This information should examined in conjunction with the information presented in TABLE 4-13. There are notable differences among groups in all categories. More than twice as many minority group members as Caucasians were reported to have left school in the elementary grades and only about half as many of the minority group subjects have attended college. Twice as many males were reported to have dropped out of elementary school as females and more females (18%) than males (11%) reported attending post-secondary school. The state differences are not very dramatic at the elementary level but, if one looks at the information for post-secondary participation, it is

TABLE 4-14

HIGHEST ACADEMIC LEVEL REPORTED

		Elementary	Secondary	Post-Secondary
RACE	Caucasian	9 3%	232 79%	54 18%
	Minority	33 7%	369 83%	41 9%
SEX	Male	37 6%	472 82%	66 11%
	Female	5 3%	129 79%	29 18%
STATE	LA	24 8%	255 84%	25 8%
	PA	8 3%	216 88%	21 9%
	WA	10 5%	130 69%	49 26%
GROUP	LDf	21 8%	221 89%	7 3%
	NON-LDf	9 3%	287 78%	70 19%
TOTAL SAMPLE		42 6%	601 81%	95 13%

clear that a far higher percentage of the subjects in the state of Washington (16%) have attended college than have those in the other two states (between 8% and 9%). Dramatic differences can also be seen in the information for the learning deficient and the non-learning deficient inmates in the sample. In the learning deficient group, 8% attended school only on the elementary level and only 3% were reported to have taken any post-secondary courses. In contrast, only 3% of the non-learning deficient group left school in the elementary grades and 19% of these individuals have attended college. It should be noted that much of the college participation which was noted in the records took place while the inmate was in the institution.

Another category of educational information which was of interest was the individual's class placement during elementary and secondary school. Of primary interest was any indication of placement in special education programs. THe information which was collected from the institutional records on this variable is summarized in TABLE 4-15. It should be noted, in examining this information, that there was no indication of school placement in more than 50% of the records. If one views the proportion of individuals who were placed in special classes as a percentage of those for whom the information was available, the indication is that almost 16% of these individuals were placed in special education programs at the elementary level and close to 20% were placed in such programs at the secondary level. In any event, it is encouraging to note that a much higher percentage of the inmates who were identified as learning deficient on the basis of TABE results had been previously identified as having problems at some point during their schooling. Although placement figures are not available on a national basis, research indicates that an average of 3% of school age children are

TABLE 4-15
ELEMENTARY AND SECONDARY SCHOOL PLACEMENT

		ELEMENTARY			SECONDARY		
		None Reported	Elementary Regular	Special	None Reported	Regular	Special
RACE	Caucasian	218 50%	182 42%	37 9%	245 57%	154 36%	34 8%
	Minority	340 56%	228 38%	40 7%	356 59%	194 32%	52 9%
SEX	Male	463 54%	319 38%	68 8%	503 60%	259 31%	79 10%
	Female	95 49%	91 47%	9 5%	98 51%	89 46%	7 4%
STATE	LA	323 84%	57 15%	6 2%	324 84%	55 14%	7 2%
	PA	72 20%	239 67%	48 13%	113 32%	182 52%	58 16%
	WA	163 54%	114 38%	23 8%	164 55%	111 38%	21 7%
GROUP	LDf	171 56%	90 30%	44 14%	183 60%	73 24%	47 16%
	NON-LDf	215 51%	201 30%	10 14%	242 60%	172 40%	12 3%
TOTAL SAMPLE		558 53%	410 39%	77 7%	601 58%	348 34%	86 8%

diagnosed as mentally retarded (Mercer, 1973) and 2-3% are diagnosed as learning disabled (Blackhurst & Berdine, 1981).

TABLE 4-16 presents the information which was gathered from the institutional records on previous educational diagnoses which were reported for the inmates in the sample. Again, it is clear that this information was simply not available in most (89%) of the cases. Of those inmates for whom diagnostic information was available (N = 117), about 4% were previously diagnosed as learning disabled: 14% were diagnosed as socially and/or emotionally disturbed, and 82% had some other educational diagnosis reported. This final category was composed mostly of individuals who had been classified as either mentally retarded or brain damaged. It is interesting to note that a much higher percentage of the learning deficient inmates (17%) were reported to have been previously diagnosed than of the non-learning deficient subjects (5%). Because of the general lack of availability of the information in this category, the variable was not used in any additional analyses.

Limited information was collected during the testing sessions on vocational training and certification. TABLE 4-17 summarizes this information. It can be seen from an examination of this table that 29% of the sample reported that they had had some type of vocational training and 27% reported that they had received certification in a vocational area. It should be noted, however, that these figures may reflect mainly participation in vocational programs while in the institution and that the certification reported is not to be construed as necessarily reflecting the incidence of formal vocational certification programs. Because of the general lack of availability of most of the educational and vocational information, the only edu-

TABLE 4-16

PREVIOUS EDUCATIONAL DIAGNOSES

		None Reported	Learning Disabled	Socially/ Emotionally Disturbed	Other Diagnosis
RACE	Caucasian	385 88%	4 1%	6 1%	42 10%
	Minority	544 90%	1 1%	10 2%	54 9%
SEX	Male	746 88%	5 1%	13 2%	87 10%
	Female	183 94%	-	3 2%	9 5%
STATE	LA	364 94%	0 -	2 .5%	20 6%
	PA	303 84%	0 -	10 3%	46 13%
	WA	262 87%	5 2%	4 1%	30 10%
GROUP	LDf	252 83%	5 2%	7 2%	41 13%
	NON-LDf	405 95%	0 -	6 1%	14 4%
TOTAL SAMPLE		929 89%	5 1%	16 2%	96 9%

TABLE 4-17

VOCATIONAL TRAINING AND CERTIFICATION REPORTED

		Training		Certification	
		No	%	No	%
RACE	Caucasion	79	26%	103	34%
	Minority	139	31%	102	25%
SEX	Male	156	27%	146	25%
	Female	62	37%	59	35
STATE	LA	62	20%	71	23%
	PA	93	38%	83	34%
	WA	63	33%	51	26%
GROUP	LDf	70	28%	35	14%
	NON-LDf	109	29%	138	37%
TOTAL SAMPLE		218	29%	205	27%

cational variable which was used in subsequent analyses was the highest grade completed.

Criminal Justice Variables

Information was collected on the juvenile and adult criminal justice histories of the inmates in the sample. Data on adjudication as a delinquent were obtained both from the records and in the testing sessions. This information is summarized in TABLE 4-18 on the following page. It is clear from an examination of this table that the information from these two sources is not very consistent. In fact, in all but one of the groups, the percentages are reversed for these figures. According to the institutional records, a higher percentage of the inmates were adjudicated as delinquent in every category. Self-reported information, however, indicates just the opposite. Because of this inconsistency, the information on adjudication was not utilized in any subsequent analyses.

TABLE 4-19 summarizes the information which was collected from the institutional records on the types of offenses which have been committed by the individuals in the sample. Although the offense information gathered was in the form of specific crimes, the categorization seen in TABLE 4-19 (non-violent, violent, combination) was utilized because it was found that the three states were not consistent in their definitions of certain types of offenses. Additionally, multiple offenses were reported in many cases. It was felt, therefore, that a simpler categorization system was desirable in order to summarize the vast amount of data which were collected. For descriptive purposes, this information is presented separately for the current sentence, juvenile offenses, and prior adult offenses. It is interesting to note that the incidence of violent offenses increased steadi-

TABLE 4-18

ADJUDICATION AS DELINQUENT

		Records		Self-report	
		Adjudicated	Not Adjudicated	Adjudicated	Not Adjudicated
RACE	Caucasian	172 58%	127 42%	122 41%	172 59%
	Minority	251 63%	150 37%	194 44%	249 56%
SEX	Male	372 65%	200 35%	275 48%	295 52%
	Female	51 40%	77 60%	41 25%	126 75%
STATE	LA	119 59%	97 45%	129 41%	186 59%
	PA	151 59%	103 41%	114 47%	131 53%
	WA	153 67%	77 33%	73 41%	104 59%
GROUP	LDf	119 63%	69 27%	117 47%	134 53%
	NON-LDf	164 56%	131 44%	148 40%	218 60%
TOTAL SAMPLE		423 60%	277 40%	316 43%	421 57%

TABLE 4-19
TYPE OF OFFENSES COMMITTED

		Current Sentence			Juvenile			Prior Adult		
		Non-Violent	Violent	Combin.	Non-Violent	Violent	Combin.	Non-Violent	Violent	Combin.
RACE	Caucasian	174 40%	175 40%	86 20%	60 70%	7 8%	19 22%	121 61%	23 12%	53 27%
	Minority	160 26%	297 49%	151 25%	64 44%	24 16%	59 40%	130 43%	65 21%	108 36%
SEX	Male	244 29%	393 46%	212 25%	111 51%	30 14%	75 35%	196 46%	80 19%	148 35%
	Female	90 46%	79 41%	25 13%	13 76%	1 6%	3 18%	55 72%	8 11%	13 17%
STATE	LA	146 38%	179 47%	59 15%	44 72%	5 8%	12 20%	115 63%	34 18%	31 17%
	PA	69 19%	180 50%	110 31%	27 31%	16 18%	45 51%	46 29%	39 24%	76 47%
	WA	119 40%	113 38%	68 23%	53 63%	10 12%	21 25%	90 57%	15 9%	54 34%
GROUP	LDf	81 27%	155 51%	68 21%	29 47%	6 10%	27 43%	64 45%	33 23%	44 31%
	NON-LDf	151 35%	185 43%	90 21%	45 49%	17 18%	29 32%	100 53%	30 16%	59 31%
TOTAL SAMPLE		334 32%	472 45%	237 23%	124 53%	31 13%	78 33%	251 50%	88 18%	161 32%

ly over time. In the juvenile offense category, violent offenses were reported in about 47% of the cases. This figure increased to 50% for prior adult offenses and to 68% for the current offenses. These figures represent a combination of the second and third categories of offense type since, by definition, anyone in the third category has been convicted of one or more violent offenses. This dichotomous categorization (non-violent vs violent) was used for all subsequent analyses.

The data which were gathered on the number of offenses committed, including the number of offenses for which the individual is currently serving time, the number of juvenile offenses, and the number of prior adult offenses, are summarized in TABLE 4-20. It should be noted that, when this information was examined in order to determine its value in predicting both academic achievement and IQ, a total was computed for each individual in the sample representing the total number of offenses reported. In cases where an inmate is currently serving a sentence for a parole violation, the original offense was counted in the relevant category (juvenile or prior adult) and the violation, along with and new offenses, was counted for the current sentence information.

TABLE 4-20 presents offense information for all the inmates in the sample. Unfortunately, a value of zero (0) was recorded for the number of offenses either if it was reported that the individual had no offenses or if there was no information in the records. For this reason, these figures were re-computed, omitting all zero responses. This information is presented in TABLE 4-21. It should be noted that the true figures probably fall somewhere in between these two numbers.

Information on the maximum sentences the inmates in the sample are

TABLE 4-20

AVERAGE NUMBER OF OFFENSES

		Current Sentence	Juvenile	Prior Adult
RACE	Caucasian	$\bar{X}$ = 1.842 s = 1.361 N = 436	$\bar{X}$ = 0.546 s = 1.589 N = 434	$\bar{X}$ = 1.339 s = 2.370 N = 434
	Minority	$\bar{X}$ = 1.967 s = 1.264 N = 608	$\bar{X}$ = 0.855 s = 2.298 N = 598	$\bar{X}$ = 2.370 s = 2.534 N = 607
SEX	Male	$\bar{X}$ = 1.931 s = 1.306 N = 850	$\bar{X}$ = 0.856 s = 2.220 N = 839	$\bar{X}$ = 1.538 s = 2.534 N = 847
	Female	$\bar{X}$ = 1.845 s = 1.306 N = 194	$\bar{X}$ = 0.155 s = 0.565 N = 193	$\bar{X}$ = 1.088 s = 2.210 N = 194
STATE	LA	$\bar{X}$ = 1.735 s = 1.278 N = 385	$\bar{X}$ = 0.318 s = 1.308 N = 381	$\bar{X}$ = 1.021 s = 1.628 N = 382
	PA	$\bar{X}$ = 2.265 s = 1.557 N = 359	$\bar{X}$ = 1.196 s = 2.817 N = 352	$\bar{X}$ = 1.677 s = 3.090 N = 359
	WA	$\bar{X}$ = 1.727 s = 0.853 N = 300	$\bar{X}$ = 0.689 s = 1.524 N = 299	$\bar{X}$ = 1.740 s = 2.447 N = 300
GROUP	LDf	$\bar{X}$ = 1.957 s = 1.410 N = 304	$\bar{X}$ = 0.781 s = 2.246 N = 301	$\bar{X}$ = 1.337 s = 2.213 N = 303
	NON-LDf	$\bar{X}$ = 1.960 s = 1.449 N = 426	$\bar{X}$ = 0.664 s = 1.864 N = 426	$\bar{X}$ = 1.313 s = 2.105 N = 425
TOTAL SAMPLE		$\bar{X}$ = 1.915 s = 1.306 N = 1044	$\bar{X}$ = 0.725 s = 2.035 N = 1032	$\bar{X}$ = 1.454 s = 2.467 N = 1041

TABLE 4-21

AVERAGE NUMBER OF OFFENSES OF THOSE REPORTED

		Current Sentence	Juvenile	Prior Adult
RACE	Caucasian	$\bar{X}$ = 1.842 s = 1.361 N = 436	$\bar{X}$ = 2.633 s = 2.594 N = 90	$\bar{X}$ = 2.934 s = 2.763 N = 198
	Minority	$\bar{X}$ = 1.967 s = 1.264 N = 608	$\bar{X}$ = 3.453 s = 3.312 N = 148	$\bar{X}$ = 3.049 s = 2.849 N = 306
SEX	Male	$\bar{X}$ = 1.931 s = 1.306 N = 850	$\bar{X}$ = 3.249 s = 3.312 N = 221	$\bar{X}$ = 3.073 s = 2.849 N = 424
	Female	$\bar{X}$ = 1.845 s = 1.306 N = 194	$\bar{X}$ = 1.745 s = 0.903 N = 17	$\bar{X}$ = 2.637 s = 2.849 N = 80
STATE	LA	$\bar{X}$ = 1.735 s = 1.278 N = 385	$\bar{X}$ = 2.051 s = 2.757 N = 59	$\bar{X}$ = 2.179 s = 1.771 N = 179
	PA	$\bar{X}$ = 2.265 s = 1.557 N = 359	$\bar{X}$ = 4.527 s = 3.877 N = 93	$\bar{X}$ = 3.716 s = 3.689 N = 162
	WA	$\bar{X}$ = 1.727 s = 0.853 N = 300	$\bar{X}$ = 2.395 s = 2.002 N = 86	$\bar{X}$ = 3.202 s = 2.517 N = 163
GROUP	LDf	$\bar{X}$ = 1.957 s = 1.410 N = 304	$\bar{X}$ = 3.790 s = 3.636 N = 62	$\bar{X}$ = 2.872 s = 2.664 N = 141
	NON-LDf	$\bar{X}$ = 1.960 s = 1.449 N = 426	$\bar{X}$ = 3.011 s = 2.957 N = 94	$\bar{X}$ = 2.937 s = 2.269 N = 190
TOTAL SAMPLE		$\bar{X}$ = 1.915 s = 1.306 N = 1044	$\bar{X}$ = 3.143 s = 3.223 N = 238	$\bar{X}$ = 3.004 s = 2.815 N = 504

serving for their current offenses is summarized in TABLE 4-22 and TABLE 4-23. This information is presented in two forms. TABLE 4-22 furnishes the means and standard deviations of the maximum sentence data for the sample, broken down by race, sex, state, and group. It can readily be seen from an inspection of this table that the averages are quite high (20 years for the total sample). The median sentence for the total sample is 12 years. The reason for the large discrepancy between these two numbers is that all life sentences were quantified as 99 years. Since there were 67 inmates in the sample who are serving life sentences, this inflated the average considerably. A clearer picture of the maximum sentence information can be seen in TABLE 4-23. This table presents frequencies and percents for 18 ranges of sentences. It can be seen that about 60% of the inmates in the sample are serving sentences of 15 years or less. Approximately 31% are serving between 15 years and 40 years.

TABLE 4-24 furnishes information which was gathered from the institutional records on whether the subjects had previously served time in an institution, either as a juvenile or as an adult. It should be noted that the percentages reported in this table reflect the percent of those for whom prior offenses were reported, not percents of the entire sample. It can be seen that, for the total sample, approximately 21% of the inmates for whom juvenile offenses were reported spent time in a juvenile institution. This figure increases to about 43% for adult offenses. It is clear from an examination of this table that there are some ethnic and sex differences in the percentage of individuals who have been convicted of an offense who are committed to an institution. A higher percent of non-Caucasion subjects and a higher percentage of males have been institutionalized for prior offenses.

TABLE 4-22

MAXIMUM SENTENCE INFORMATION

		Mean	Standard Deviation	N
RACE	Caucasian	21.378	27.151	432
	Minority	19.173	19.879	606
SEX	Male	20.734	22.942	844
	Female	17.179	24.130	194
STATE	LA	15.200	15.836	384
	PA	18.335	18.100	358
	WA	28.486	32.621	296
GROUP	LDf	17.717	19.542	289
	NON-LDf	19.472	22.313	424
TOTAL SAMPLE		20.070	23.198	1038

TABLE 4-23

MAXIMUM SENTENCE INFORMATION FREQUENCIES

TOTAL SAMPLE

Maximum Sentence Value Rage	Frequency	Percent	Cumulative Percent
2 to 5 years	177	17.05%	17.05%
6 to 10 years	326	31.41%	48.46%
11 to 15 years	120	11.56%	60.02%
16 to 20 years	203	19.56%	79.58%
21 to 25 years	41	3.95%	83.53%
26 to 30 years	49	4.72%	88.25%
31 to 35 years	14	1.35%	89.60%
36 to 40 years	22	2.11%	91.71%
41 to 45 years	6	.58%	92.29%
46 to 50 years	4	.39%	92.68%
51 to 55 years	1	.10%	92.77%
56 to 60 years	5	.49%	93.26%
61 to 65 years	0	0	93.26%
66 to 70 years	2	.19%	93.45%
71 to 75 years	0	0	93.45%
76 to 80 years	0	0	93.45%
81 to 85 years	1	.10%	93.55%
LIFE SENTENCE	67	6.46%	100.00%

TABLE 4-24

PRIOR INSTITUTIONALIZATION

JUVENILE AND ADULT

		Juvenile		Adult	
		N	Percent	N	Percent
RACE	Caucasian	88	20%	171	40%
	Minority	132	22%	271	46%
SEX	Male	201	24%	376	45%
	Female	19	10%	66	35%
STATE	LA	50	13%	161	43%
	PA	80	23%	132	38%
	WA	90	30%	149	50%
GROUP	LDf	56	19%	124	42%
	NON-LDf	84	20%	163	39%
TOTAL SAMPLE		220	21%	442	43%

The differences between males and females is especially dramatic at the juvenile level where 24% of the males who were convicted of an offense and only 10% of the females served time in a juvenile institution. There do not appear to be any notable group differences.

In summary, much of the information collected on the criminal and juvenile justice backgrounds of the individuals in the sample may present a somewhat biased picture of the population of interest. In cases where such a bias exists, however, it leads in every instance to an underestimate rather than an over-estimate of the figures. This is due to the lack of information in the institutional records. In general, the indication is that, of the total sample, at least 23% of the inmates had some record of juvenile offenses and over 48% were reported to have beer. convicted of one or more prior adult offenses. Of these individuals, 21% were committed to an institstitution as a juvenile and 43% had previously served time in an adult institution. A majority of inmates in the sample (68%) have been convicted of violent offenses and over 6% are serving life sentences.

Test Results

The ability and disability variables which were discussed in Chapter III were assessed by means of both standardized and informal testing procedures. The instruments which were utilized were the tests of Adult Basic Education, the Wechsler Adult Intelligence Scale--Revised, the Mann-Sulter Learning Disabilities Screening Tests, and an Adaptive Behavior Checklist. Each of these was discussed in depth in the previous chapter. In this section, the results of these tests are presented and discussed.

The Tests of Adult Basic Education

The TABE (Level M, Form 4) were administered to the subjects in order

to determine the academic achievement levels of these individuals. The TABE were also used to identify the learning deficient inmates in the sample. As was stated earlier, all inmates who scored at or below the fifth grade level on one or more of the subtests of the TABE were defined as learning deficient. These individuals were then screened further to try to identify the nature of this deficiency. Although repeated attempts were made to test all the inmates in the sample, the institutional limitations discussed earlier made this impossible. A total of 765 inmates were given the TABE. The results of these tests are presented in TABLE 4-25 and TABLE 4-26 by race, sex, state, and group.

As can be seen from an inspection of thest tables, the average grade levels of the sample on the TABE subtests range from a low of 6.5 to a high of 7.6. The overall mean (total test score) represents a grade level equivalent of 6.7. When this information is compared to the information on the highest grade completed (TABLE 4-13), it can be seen that the inmates in the sample, in general, are functioning an average of more than three years below grade level. When one looks at this comparison separately for the learning deficient and the non-learning deficient inmates in the sample, however, it is clear that the former group accounts for most of this difference. The inmates who were identified as learning deficient are functioning an average of almost five years below their highest grade completed in overall academic achievement. In contrast, the non-learning deficient group are only an average of two years below grade level.

In addition to the obvious differences between these two groups, it is also evident that there are differences in academic achievement by ethnic background and by state. Slight sex differences are also found but the mag-

TABLE 4-25
ELEMENTARY AND SECONDARY SCHOOL PLACEMENT

		Vocabulary	Comprehension	Computation	Concept & Problems	Mechanics & Expression	Spelling
RACE	Caucasian	7.9 N = 316	8.5 N = 315	7.6 N = 312	7.4 N = 309	7.6 N = 309	7.9 N = 307
	Minority	6.8 N = 444	7.0 N = 443	6.6 N = 445	5.9 N = 428	5.7 N = 421	7.0 N = 419
SEX	Male	7.0 N = 582	7.5 N = 582	6.9 N = 581	6.5 N = 564	6.2 N = 562	7.1 N = 560
	Female	7.4 N = 178	7.9 N = 176	7.1 N = 176	6.8 N = 173	7.2 N = 168	8.5 N = 166
STATE	LA	6.6 N = 283	7.0 N = 283	6.6 N = 282	6.0 N = 279	6.0 N = 278	7.0 N = 278
	PA	7.3 N = 299	7.7 N = 298	7.0 N = 300	6.6 N = 284	6.5 N = 277	7.3 N = 276
	WA	7.8 N = 178	7.7 N = 177	7.0 N = 175	6.6 N = 174	6.5 N = 175	7.3 N = 172
GROUP	LDf	5.6 N = 319	5.4 N = 319	5.5 N = 319	4.5 N = 319	5.0 N = 319	4.5 N = 319
	NON-LDf	8.5 N = 447	9.2 N = 447	7.9 N = 447	7.8 N = 447	8.4 N = 447	9.0 N = 447
TOTAL SAMPLE		7.2 N = 760	7.6 N = 758	7.0 N = 757	6.6 N = 737	6.5 N = 730	7.3 N = 726

TABLE 4-26

TESTS OF ADULT BASIC EDUCATION--TOTALS

		Reading Total	Math Total	Total
RACE	Caucasion	8.1 N = 317	7.4 N = 312	7.3 N = 318
	Minority	6.7 N = 445	6.7 N = 446	6.5 N = 447
SEX	Male	7.1 N = 584	6.7 N = 582	6.5 N = 587
	Female	7.6 N = 178	6.9 N = 176	7.0 N = 178
STATE	LA	6.6 N = 283	6.4 N = 282	6.3 N = 283
	PA	7.3 N = 300	6.4 N = 301	6.3 N = 303
	WA	8.1 N = 179	7.3 N = 175	7.3 N = 179
GROUP	LDf	5.4 N = 319	5.1 N = 319	4.7 N = 319
	NON-LDf	9.2 N = 447	7.9 N = 447	8.2 N = 447
TOTAL SAMPLE		7.2 N = 762	6.7 N = 758	6.7 N = 765

nitude of these does not appear to be very notable except on the last two subtests.

An examination of the TABE results by ethnic background reveals that the Caucasian subjects in the sample are achieving a minimum of about one grade level above the subjects in the other ethnic groups. This finding is consistent with national figures which indicate that, on a standardized achievement test, white secondary school students performed about one standard deviation above black students in both reading and math (Dearman & Plisko, 1981).

The regional differences which are evident in TABLES 4-25 and 4-26 are also consistent with national data. It has been found that the academic achievement levels in the South are generally lower than those in the Northeast and Northwest. It also should be noted that there may be an interaction between region and race.

A total of 319 of the 765 subjects who were given the Tests of Adult Basic Education were found to be functioning at the fifth grade level or below on one or more of the six subtests. This figure indicates that about 42% of the sample are learning deficient, according to the operational definition of learning deficiencies utilized in this study. Further screening was done on these individuals to try to determine the nature of the deficiency. One of the possible explainers of low academic functioning which was investigated was overall intellectual functioning.

The Wechsler Adult Intelligence Scale--Revised

The WAIS-R was used to assess the general abilities of the inmates in the sample. It also served the purpose of identifying the possibly mentally

retarded inmates. The results of this test are summarized in TABLE 4-27. Again, institutional and other factors made it impossible to administer this test to all of the inmates in the sample, although all realistic attempts were made to do so. A total of 756 inmates were given the WAIS-R, an individual intelligence test which takes approximately an hour and a half to administer. The test is discussed in Chapter III.

An inspection of the information in TABLE 4-27 shows that the average full scale intelligence quotient for the sample is approximately 86, with a standard deviation of 12. In general, this means that the sample, as a whole, scored almost one standard deviation below the national average for this test ($\bar{X}$ = 100, s = 16). It is clear that there are substantial differences in the scores on the WAIS-R by race, by state, and by group. The data for the two ethnic groups indicate that the Caucasians in the sample scored an average of ten points higher on the total test (Full Scale IQ) than did the subjects from minority groups. This finding is consistent with the findings of the Psychological Corporation, the publishers of the revised WAIS (Herman, 1982). In norming the test nationally, it was found that the Caucasian subjects had an average Full Scale IQ of 101.4 while the black members of the norming group averaged 86.8. The standard deviations for these two groups were 14.7 and 12.9 respectively.

The state differences which were found in this study are also supported by norming data. In general, the South, as a region, scored lower on the WAIS-R than did the Northeast and the Northwest. The average amount of the differences was almost four points in Full Scale IQ scores. As in the case of the results of the Tests of Adult Basic Education, there is most likely an interaction between ethnic background and region which contributes to the

TABLE 4-27

WECHSLER ADULT INTELLIGENCE SCALE--REVISED

		Verbal IQ	Performance IQ	Full Scale IQ
RACE	Caucasian N = 307	$\bar{X}$ = 90.8 s = 13.8	$\bar{X}$ = 95.7 s = 13.8	$\bar{X}$ = 92.2 s = 13.8
	Minority N = 451	$\bar{X}$ = 82.3 s = 9.5	$\bar{X}$ = 84.6 s = 10.6	$\bar{X}$ = 82.1 s = 9.3
SEX	Male N = 588	$\bar{X}$ = 85.7 s = 12.4	$\bar{X}$ = 89.4 s = 13.2	$\bar{X}$ = 86.3 s = 12.5
	Female N = 170	$\bar{X}$ = 85.9 s = 11.4	$\bar{X}$ = 88.0 s = 13.0	$\bar{X}$ = 85.9 s = 12.0
STATE	LA N = 316	$\bar{X}$ = 85.5 s = 9.9	$\bar{X}$ = 84.9 s = 11.6	$\bar{X}$ = 81.8 s = 9.9
	PA N = 247	$\bar{X}$ = 86.8 s = 12.3	$\bar{X}$ = 89.3 s = 13.4	$\bar{X}$ = 86.9 s = 12.7
	WA N = 195	$\bar{X}$ = 91.4 s = 12.8	$\bar{X}$ = 95.6 s = 12.6	$\bar{X}$ = 92.5 s = 12.4
GROUP	LDf N = 256	$\bar{X}$ = 77.6 s = 6.6	$\bar{X}$ = 81.0 s = 9.6	$\bar{X}$ = 77.8 s = 7.0
	NON-LDf N = 379	$\bar{X}$ = 91.5 s = 12.8	$\bar{X}$ = 94.6 s = 13.[illegible]	$\bar{X}$ = 92.1 s = 12.9
TOTAL SAMPLE		$\bar{X}$ = 85.7 s = 12.2	$\bar{X}$ = 89.1 s = 13.2	$\bar{X}$ = 86.2 s = 12.4

magnitude of these differences, both nationally and in this study.

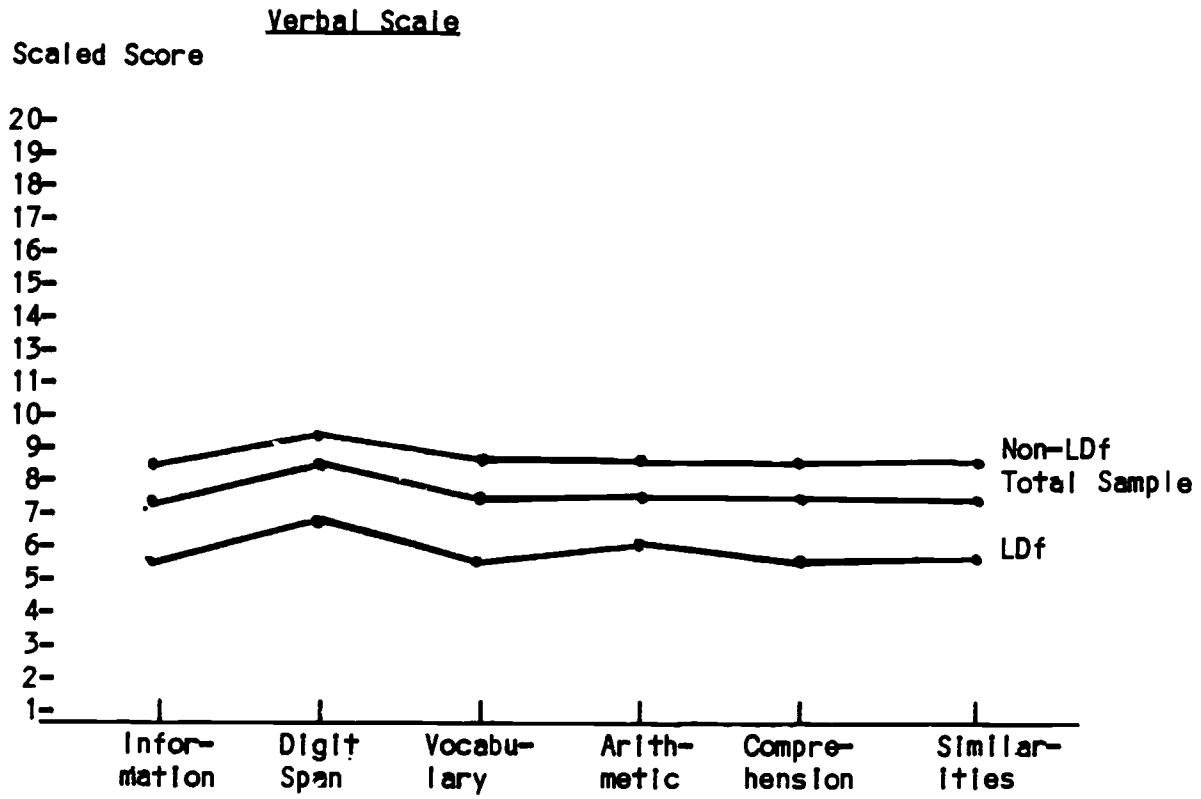
An inspection of the information presented in TABLE 4-27 for the learning deficient and the non-learning deficient inmates in the sample shows that the latter performed about 14 points above the former on the total test. This represents a difference of almost one standard deviation. It is also interesting to note that the standard deviation for the learning deficient inmates (7.0) is substantially lower than that for the non-learning deficient subjects (12.9), indicating that there is considerably less variability in the scores of the learning deficient inmates. Additionally, the overall mean for this group (77.8) is less than four points above the cut-off which was used to identify those subjects who may be mentally retarded (less than 75).

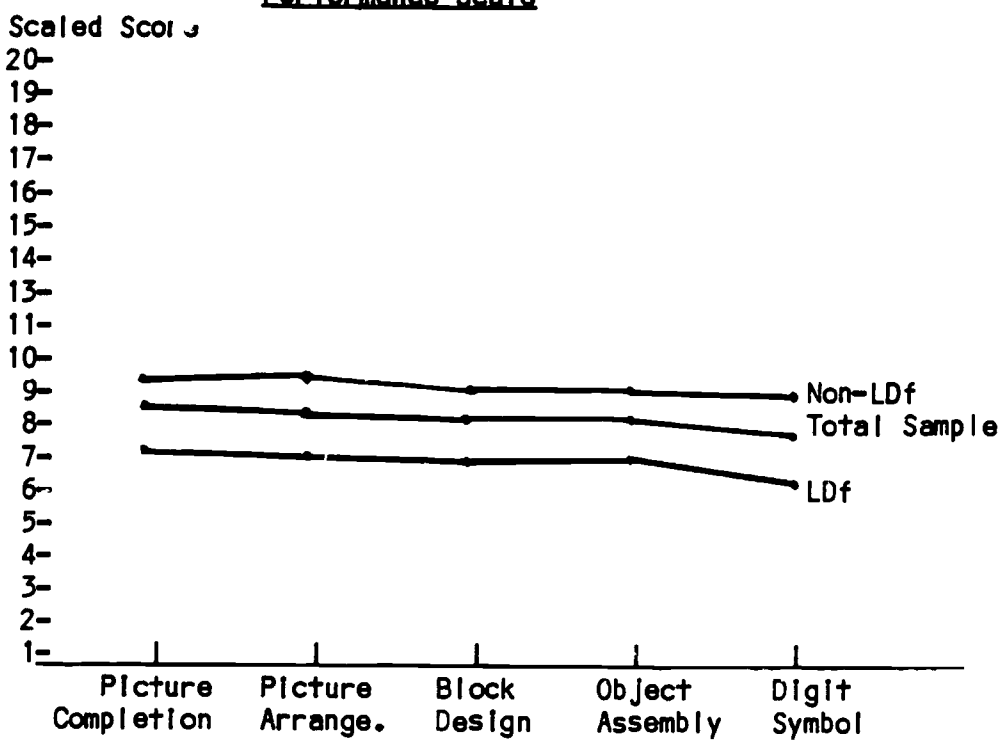
It must be kept in mind in interpreting the results of the WAIS-R that the test does not purport to measure "innate ability" exclusively, although this is one component. A great deal of what the test measures is related to educational and cultural background, and scores are not to be viewed as static. The assumption is that, given the opportunity to increase one's experiential horizons, one can, in fact, improve scores on the WAIS-R. Therefore, the results of this test should be considered in conjunction with the other information gathered in this study, especially the scores on the TABE, which indicate that the inmates in the sample, in general, are academically depressed. The correlations between Full Scale IQ and achievement test scores are high (.64 for reading; .61 for math), which is a further indication that the WAIS-R scores are, to a great extent, a reflection of academic level.

TABLE 4-28 presents a graph of the WAIS-R subtest scores by race, sex,

TABLE 4-28

GRAPH OF WAIS-R SUBTEST SCORES BY GROUP





state, and group. All of these scores represent age-normed scaled scores. The national mean for each subtest is 10, with a score range from zero to twenty.

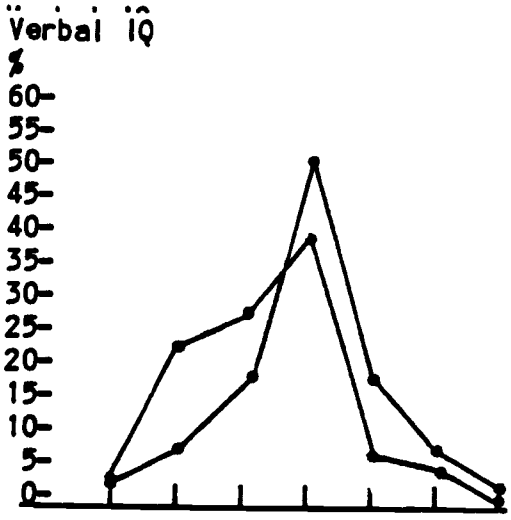
The information which was presented numerically in TABLE 4-27 is presented graphically in TABLES 4-29 to 4-33. In each of these tables, the percentage of the sample who scored in particular score intervals is plotted against the normal expectations for the WAIS-R, based on the national norming sample. This information is presented separately by race, sex, state, and group. TABLE 4-33 furnishes the comparison for the total sample. The actual percentages which these points represent are given for each subgroup in TABLE 4-34 (Verbal IQ), TABLE 4-35 (Performance IQ), and TABLE 4-36 (Full Scale IQ).

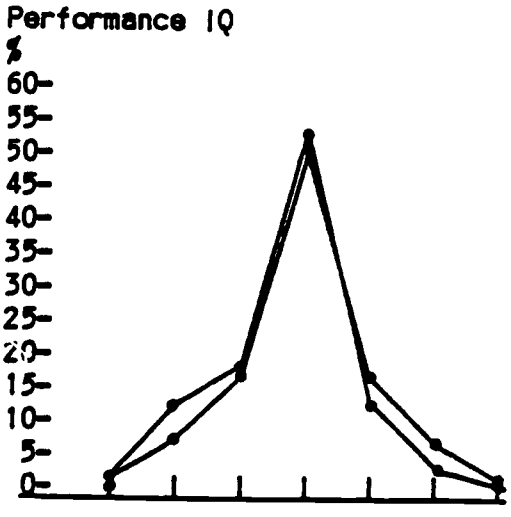
Comparisons between project and recorded test results. In an attempt to check the reliability of the standardized tests which were used in this research, some comparisons were made between the TABE and the WAIS-R results of achievement and intelligence tests which were obtained from the institutional records. This was done by computing correlations coefficients between the various pairs of scores. The results of this analysis are summarized in TABLE 4-37. It can be seen from an inspection of the information presented in this table that the correlations between project results and recorded data are quite substantial. It is clear that the WAIS-R is a better predictor of academic achievement than the Revised Beta. Correlation for the WAIS-R range between .61 and .71 while the same correlations for the Revised beta have a range from .49 to .62. It has been established (Mack, 1970) that the Revised Beta, although it is highly correlated with the WAIS (before the revision) provides a consistent overestimate of WAIS scores.

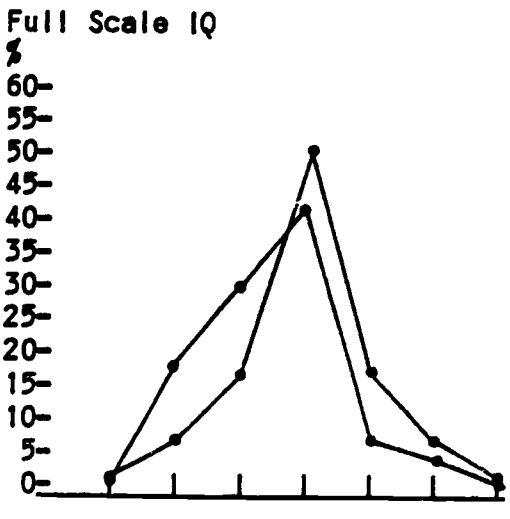
TABLE 4-29

WAIS-R IQ DISTRIBUTIONS PLOTTED ON NORMAL DISTRIBUTION BY RACE

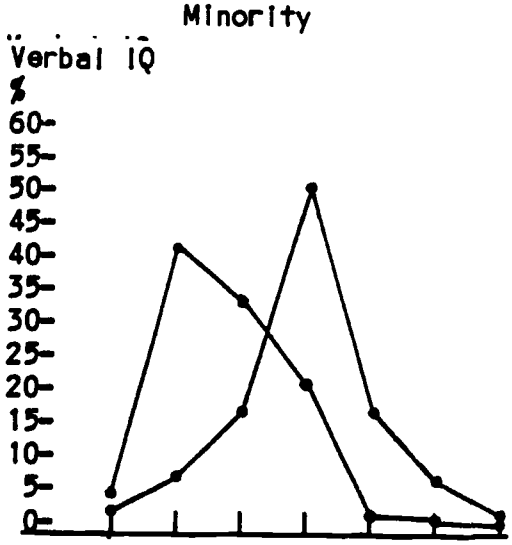
Caucasian

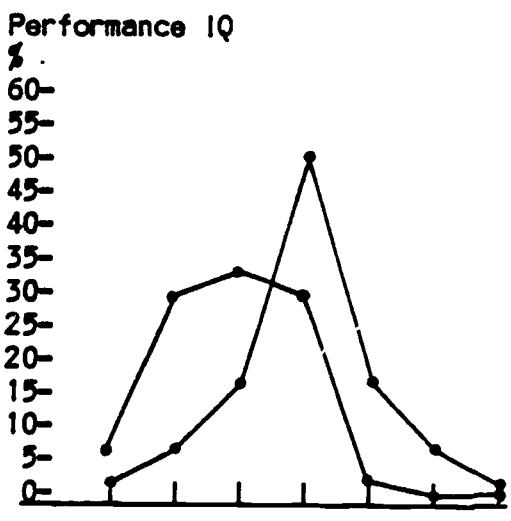






Minority





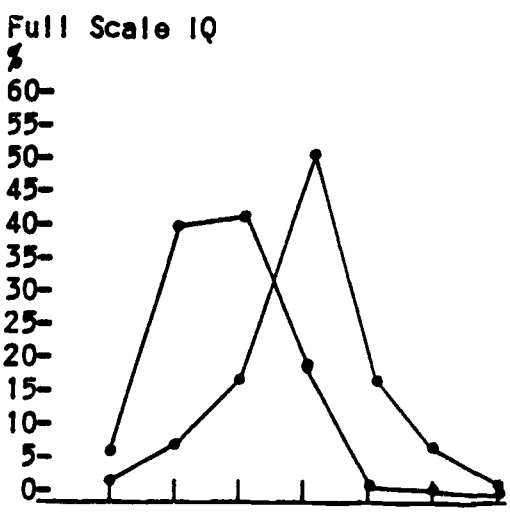
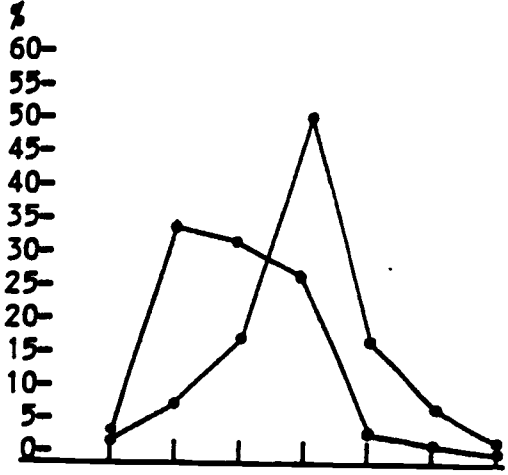


TABLE 4-30

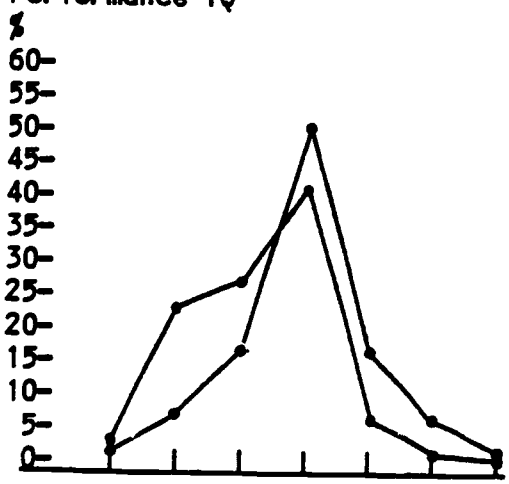
WAIS-R IQ DISTRIBUTIONS PLOTTED ON NORMAL DISTRIBUTION (BY SEX)

Males

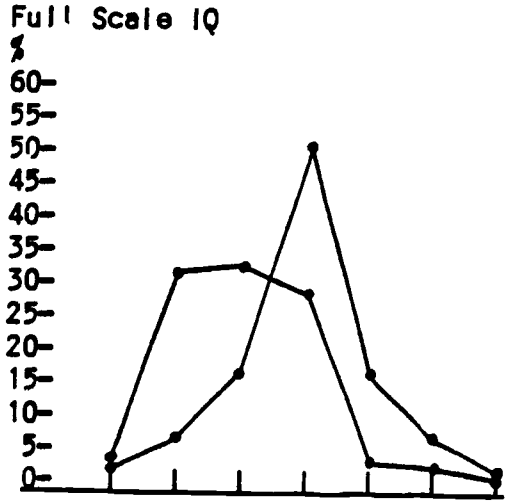
Verbal IQ



Performance IQ

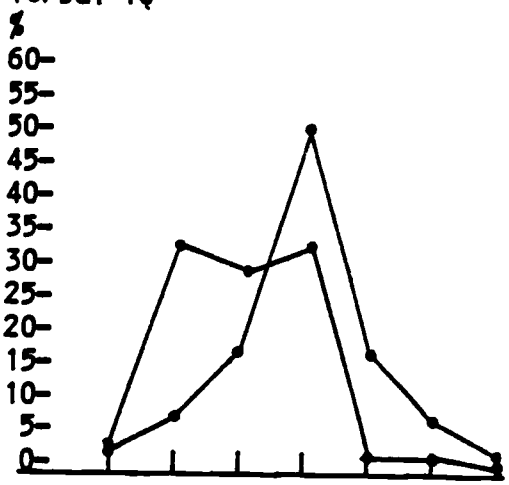


Full Scale IQ

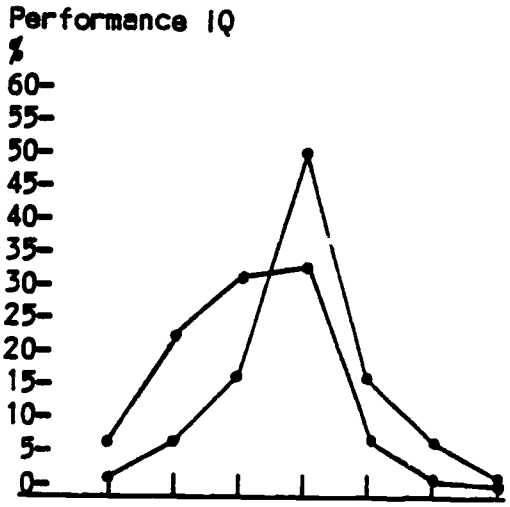


Females

Verbal IQ



Performance IQ



Full Scale IQ

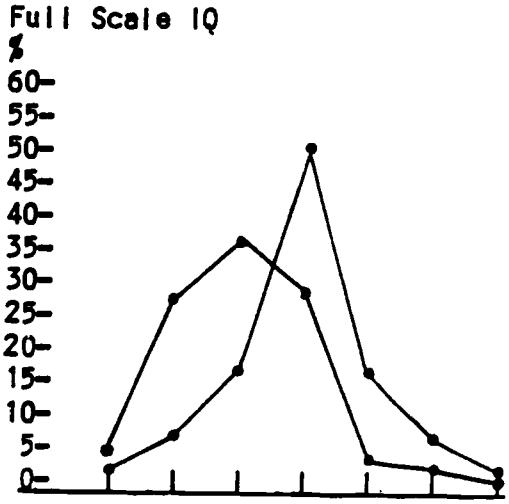
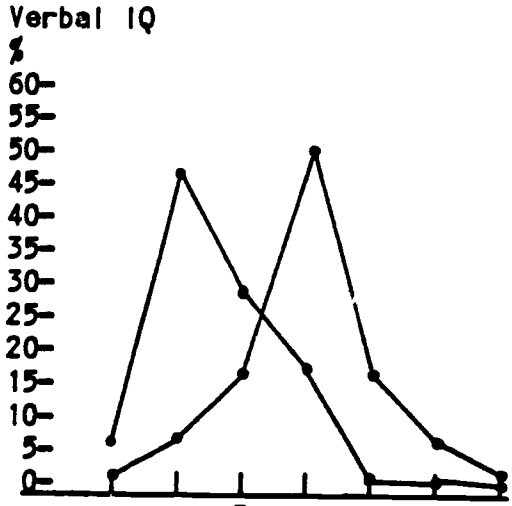
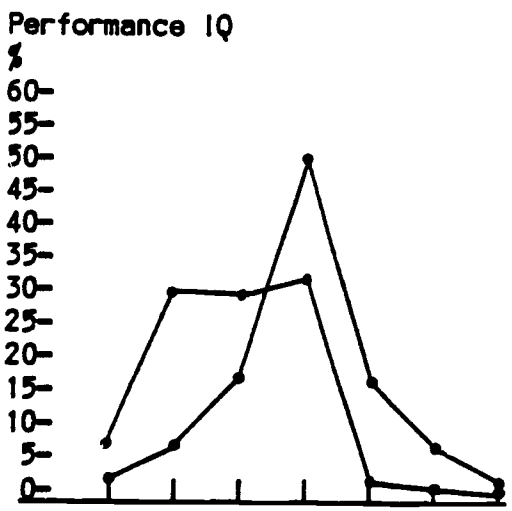


TABLE 4-31

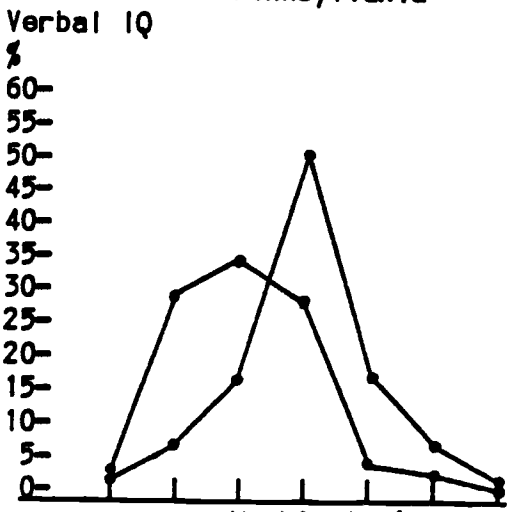
WAIS-R IQ DISTRIBUTIONS PLOTTED ON NORMAL DISTRIBUTION (BY STATE)

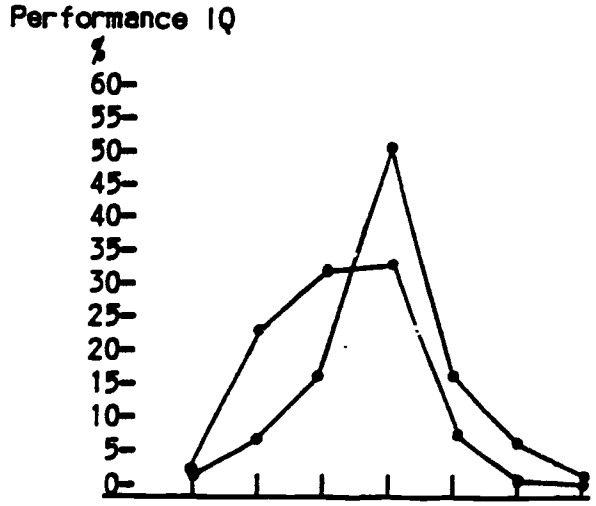
Louisiana



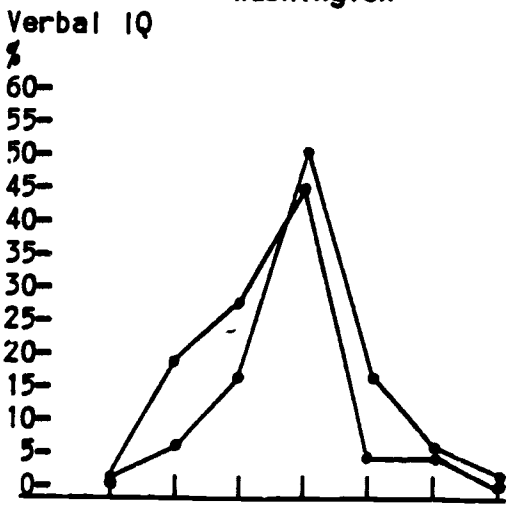


Pennsylvania





Washington



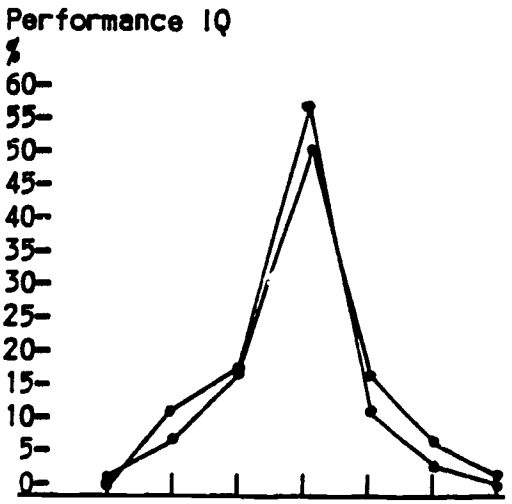
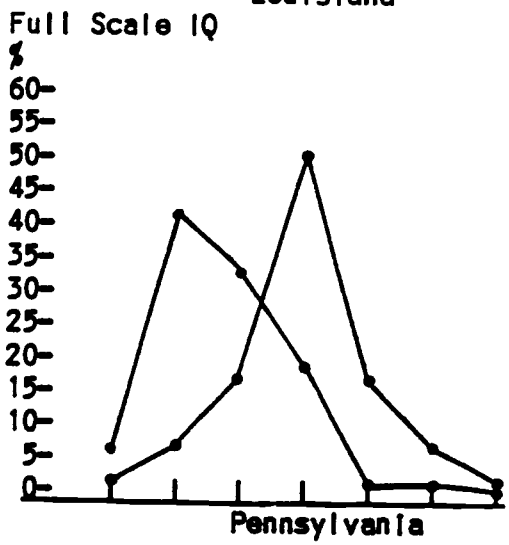
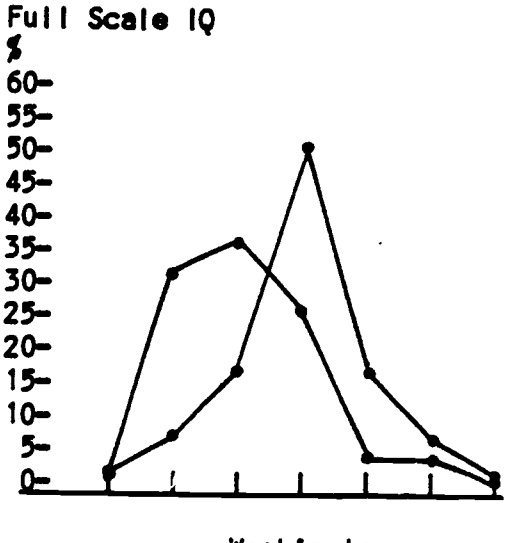


TABLE 4-31 (Continued)

Louisiana



Pennsylvania



Washington

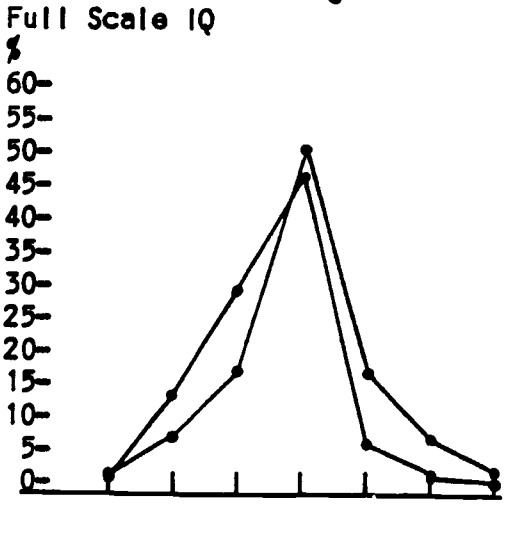
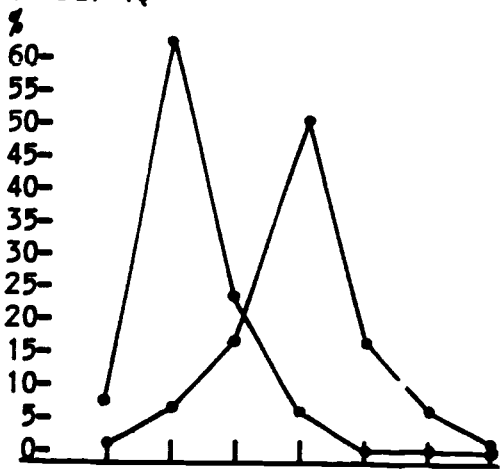


TABLE 4-32

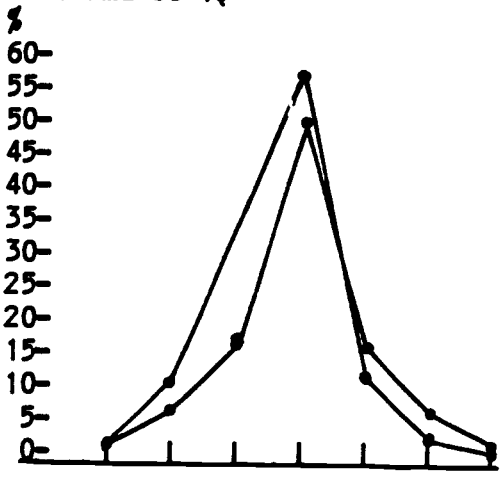
WAIS-R IQ DISTRIBUTIONS PLOTTED ON NORMAL DISTRIBUTION (BY GROUP)

Learning Deficient

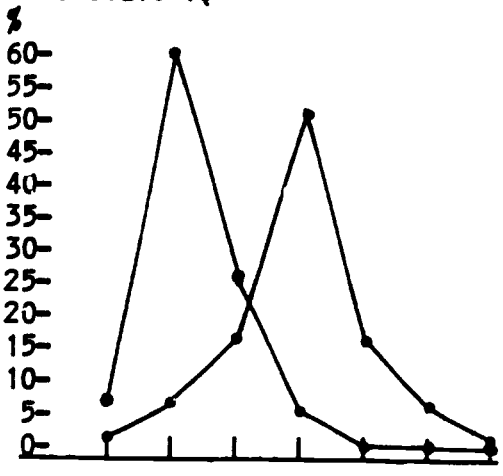
Verbal IQ



Performance IQ

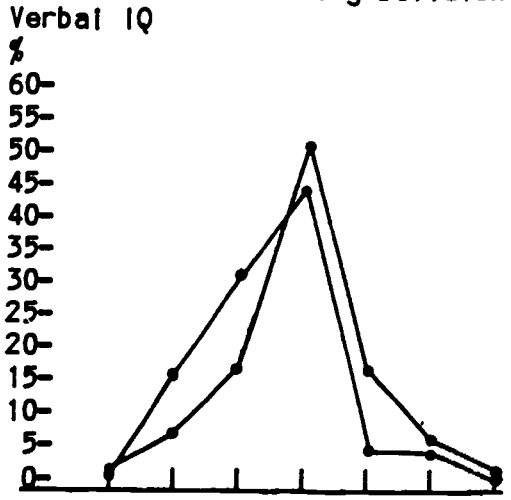


Full Scale IQ

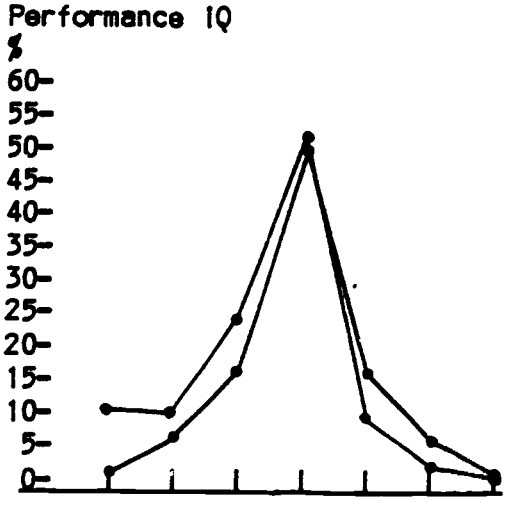


Non-Learning Deficient

Verbal IQ



Performance IQ



Full Scale IQ

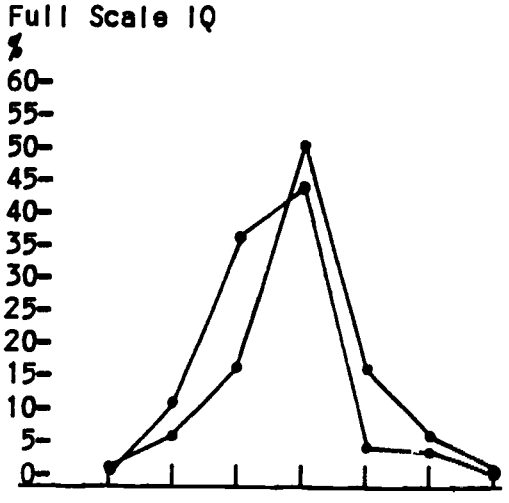
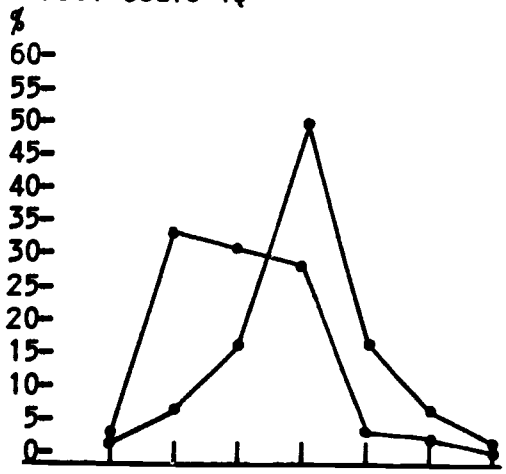


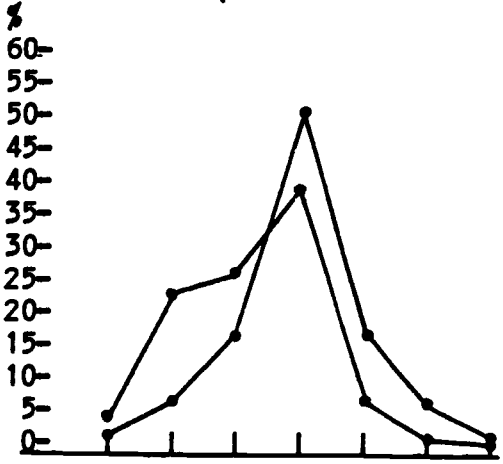
TABLE 4-33

WAIS-R DISTRIBUTIONS PLOTTED ON NORMAL DISTRIBUTION (TOTAL SAMPLE)

Verbal Scale IQ



Performance IQ



Full Scale IQ

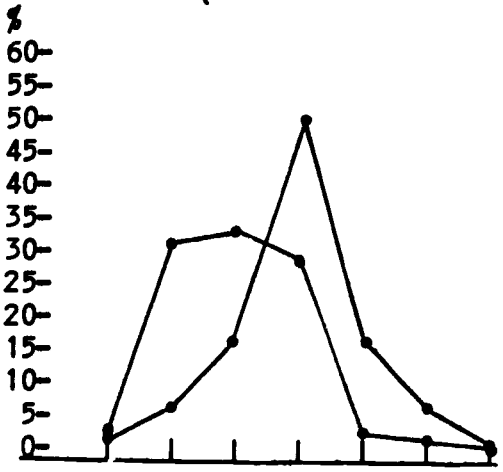


TABLE 4-34

PERCENTAGES FOR WAIS-R INTERVALS

VERBAL IQ

	Below 70	70-79	80-89	90-109	110-119	120-129	Above 130
Normal Distribution	2.2	6.7	16.1	50.0	16.1	6.7	2.2
Caucasian	2.3	22.5	26.4	38.1	6.2	4.6	0
Minority	4.7	41.0	33.0	20.3	.9	.2	0
Males	3.9	33.6	30.7	26.1	3.4	2.2	0
Females	2.9	32.9	28.8	32.4	1.8	1.2	0
LA	6.3	46.5	28.8	17.1	1.0	.3	0
PA	3.2	28.7	34.4	27.1	4.5	2.0	0
WA	0	18.1	27.5	45.1	4.7	4.7	0
LDf	7.5	62.7	23 5	6.3	0	0	0
Non-LDf	.3	15.3	31.5	44.2	4.7	4.0	0
Total	3.5	33.6	30.4	27.6	3.1	2.0	0

TABLE 4-35

PERCENTAGES FOR WAIS-R INTERVALS

PERFORMANCE IQ

	Below 70	70-79	80-89	90-109	110-119	120-129	Above 130
Normal Distribution	2.2	6.7	16.1	50.0	16.1	6.7	2.2
Caucasian	1.6	12.1	17.9	52.1	12.4	2.9	.7
Minority	6.0	29.5	33.0	24.5	1.8	0	0
Males	3.9	22.5	25.9	40.1	6.0	1.4	.3
Females	5.9	22.4	30.6	33.5	6.5	1.2	0
LA	7.3	29.8	29.4	31.0	1.9	.6	0
PA	2.4	22.7	32.0	33.6	7.3	2.0	0
WA	0	18.1	27.5	45.1	4.7	1.2	.8
LDf	2.1	10.3	16.4	57.4	11.3	2.6	0
Non-LDf	10.2	10.0	24.1	52.7	9.5	2.4	.5
Total	4.4	22.4	26.9	38.7	6.1	1.3	.3

TABLE 4-36

PERCENTAGES FOR WAIS-R INTERVALS

FULL SCALE IQ

	Below 70	70-79	80-89	90-109	110-119	120-129	Above 130
Normal Distribution	2.2	6.7	16.1	50.0	16.1	6.7	2.2
Caucasian	5.4	39.9	40.8	18.5	.7	.2	.3
Minority	4.7	41.0	33.0	20.3	.9	.2	0
Males	3.6	31.4	32.4	28.0	2.6	1.9	.2
Females	4.7	27.6	35.9	27.1	3.5	1.2	0
LA	6.3	40.8	33.9	18.4	.3	.3	0
PA	2.0	31.2	35.2	25.1	4.1	2.0	.4
WA	2.1	13.0	29.5	46.6	5.2	1.0	0
LDf	7.8	60.0	26.7	5.5	0	0	0
Non-LDf	.3	11.9	35.7	43.6	4.8	3.4	.3
Total	3.7	30.6	33.3	27.8	2.8	1.7	.1

TABLE 4-37

CORRELATIONS BETWEEN IQ AND ACHIEVEMENT

(PROJECT AND RECORDS)

	Revised Beta	TABE Reading	TABE Math	Other Reading	Other Math
WAIS-R	.70	.64	.61	.68	.71
Revised Beta		.54	.49	.55	.62
TABE Reading			.76	.72	.59
TABE Math				.54	.67
Other Reading					.71

Note: All correlations are significant at the .001 level

This was the finding in the study as well, as the information summarized in TABLE 4-39 indicates.

The TABE and the WAIS-R were used to identify those inmates in the sample who either had indications of learning deficiencies or of mental retardation. These individuals were then scheduled for further screening with either the Mann-Suiter Learning Disabilities Screening Tests or the Adaptive Behavior Checklist. TABLE 4-39 summarizes this information. Chi Square tests for significance were performed to determine whether there were statistically significant differences by race, sex, or state. It should be noted that the percentages given for learning deficiencies represent percentages of those individuals in a given category who took the TABE and the percentages given for mental retardation represent percentages of those who were administered the WAIS-R. It can be seen from an inspection of the information in this table that there are significant differences in the incidence of learning deficiencies in all three categories and in indications of mental retardation both by race and by state.

The direction of each of these differences is again consistent with national differences by race and by region. Some possible explanations of these differences are discussed in the final chapter of this report. Suffice it to say at this point that the issue of instrument bias needs to be investigated for both the TABE and the WAIS-R before solid conclusions can be drawn about the significance of these differences.

The Mann-Suiter Learning Disabilities Screening Tests

Certain subtests of the Mann-Suiter Learning Disabilities Screening Tests were administered to those inmates in the sample who were identified as learning deficient on the basis of their scores on the TABE. As was the

TABLE 4-38

COMPARISON OF WAIS-R FULL SCALE IQ SCORES

WITH REVISED BETA SCORES

		WAIS-R		Revised Beta	
		Mean	N	Mean	N
RACE	Caucasian	92.2	307	97.0	318
	Minority	82.1	449	86.8	422
SEX	Male	86.3	586	91.2	652
	Female	85.9	170	90.9	88
STATE	LA	81.3	315	85.0	216
	PA	86.9	247	89.0	255
	WA	92.5	193	98.2	269
GROUP	LDf	77.8	256	82.0	200
	NON-LDf	92.1	379	97.5	296
TOTAL SAMPLE		86.2	756	91.2	740

TABLE 4-39

INDICATIONS OF LEARNING DEFICIENCIES AND MENTAL RETARDATION

		Learning Deficiencies		Mental Retardation	
		N	%*	N	%**
RACE	Caucasian	83	26	27	9
	Minority	222	54	82	20
Chi Square Test for Race		$X^2_1 = 55.37$ (p = .000)		$X^2_1 = 15.84$ (p = .000)	
SEX	Male	209	44	85	15
	Female	47	30	26	15
Chi Square Test for Sex		$X^2_1 = 8.37$ (p = .004)		$X^2_1 = .020$ (p = .888)	
STATE	LA	127	48	75	24
	PA	89	42	29	12
	WA	40	25	7	4
Chi Square Test for State		$X^2_2 = 22.56$ (p = .000)		$X^2_2 = 41.31$ (p = .000)	

* Percent of those in a given category who took the TABE

** Percent of those in a given category who took the WAIS-R

case with the TABE and the WAIS-R, not all eligible inmates were available for testing for one reason or another. A total of 237 of those who scored at or below the fifth grade level on one or more TABE subtests were given the Mann-Suiter. The results of these screening tests are summarized in TABLE 4-40.

It is important to note that the scoring criteria which were used in identifying those inmates with potential problems on the subtests of the Mann-Suiter were based on recommendations for children. Even so, it can be seen that 82% of those tested showed evidence of problems in one or more of the subtests. The areas in which the most errors were made were the Visual Motor Test, Visual Closure, Auditory Discrimination, and Auditory Closure. Caution must be taken in interpreting the results of these tests and it must be kept in mind that they were designed for screening rather than diagnostic purposes. All that can be accurately stated is that they provide an indication that problems may exist and that diagnostic process would be appropriate to determine the specific nature and extent of these problems.

Keeping these cautions in mind, it can be said that there is evidence to indicate that as many as 25% of those inmates who were administered the Tests of Adult Basic Education have some symptoms of a specific learning disability. TABLE 4-41 and TABLE 4-42 summarize these results from a slightly different perspective. The first of these presents the numbers and percentages of individuals, by race, sex, and state, who, based on the Mann-Suiter subtest scores, showed indications of either visual or auditory problems. These figures represent those inmates who had problems on one or more of the visual subtests or on one or more of the auditory subtests. The percentages are based on the total number of individuals in a given category

TABLE 4-40

MANN-SUITER LEARNING DISABILITIES SCREENING TEST

Test	Problems N	Problems %	No Problems N	No Problems %
Visual Motor	101	42.62	136	57.38
Visual Discrimination	2	.84	235	99.15
Visual Closure Part A	8	2.39	228	96.61
Visual Closure Part B Level 1	15	6.40	220	93.63
Visual Closure Part B Level 2	26	11.9	209	88.93
Visual Closure Part B Level 3	44	18.75	191	81.27
Visual Closure Part B Level 4	62	26.39	173	73.62
Visual Memory	35	14.83	201	85.17
Auditory Discrimination Part A	20	8.53	215	91.49
Auditory Discrimination Part B	77	32.63	159	67.38
Auditory Closure	135	57.68	99	42.31
Auditory Memory	38	16.08	198	83.99
Any One or More Tests	192	81.70	43	18.30

TABLE 4-41

INDICATIONS OF VISUAL AND AUDITORY DEFICITS

		Visual		Auditory	
		N	%	N	%
RACE	Caucasian N = 61	24	40	36	59
	Minority N = 169	69	41	125	75
Chi Square Test for Race		$X^2_1 = 0$ (p = 1.00)		$X^2_1 = 4.66$ (p = .031)	
SEX	Male N = 168	72	43	123	74
	Female N = 2[illegible]	12	41	20	69
Chi Square Test for Sex		$X^2_1 = 0$ (p = 1.00)		$X^2_1 = .089$ (p = .766)	
STATE	LA N = 100	54	54	79	81
	PA N = 71	16	23	44	62
	WA N = 28	14	50	20	71
Chi Square Test for State		$X^2_2 = 16.57$ (p = .000)		$X^2_2 = 7.92$ (p = .000)	

Note: Not all subjects completed all subtests

TABLE 4-42

INDICATIONS OF SPECIFIC SKILL DEFICITS - MANN-SUITER

		Discrimination Skills		Closure Skills		Memory Skills	
		N	%	N	%	N	%
RACE	Caucasian N = 61	23	38	17	28	24	39
	Minority N = 169	63	38	51	30	38	23
Chi Square Test for Race		χ^2_1 =0 (p=1.00)		χ^2_1 =.011 (p=.92)		χ^2_1 =5.64 (p=.02)	
SEX	Male N = 168	62	37	54	32	45	27
	Female N = 29	14	48	7	24	10	35
Chi Square Test for Sex		χ^2 =.912 (p=.34)		χ^2 =.414 (p=.52)		χ^2 =.420 (p=.52)	
STATE	LA N = 100	41	42	39	39	27	27
	PA N = 7	19	27	14	20	15	21
	WA N = 28	16	57	8	29	13	46
Chi Square Test for State		χ^2_2 =8.70 (p=.01)		χ^2_2 =6.77 (p=.03)		χ^2_2 =6.43 (p=.04)	

Note: Not all subjects completed all subtests

who were administered the Mann-Suiter Learning Disabilities Screening Tests. A Chi Square Test of Significance is reported for each classification (race, sex, and state).

An examination of the tests for significant differences indicates that, in the visual area, there are no race or sex differences, but there are significant state differences. In the area of auditory skills, significant differences are seen both for race and for state, with a substantially larger percentage of the minority group subjects and a larger percentage of the inmates from Louisiana showing evidence of auditory problems. In all fairness, it is felt that at least some of these differences are attributable to dialectic variations, since the tests draw heavily on standard English.

The information in TABLE 4-42 presents the results of the Mann-Suiter Learning Disabilities Screening Tests by specific skill areas. These figures represent combinations of the auditory and visual discrimination tests, the auditory and visual closure tests, and the auditory and visual memory tests. The only significant race differences which were found were in the area of memory skills. It is felt that these differences are largely due to differences in learned language skills. There were no significant sex differences found in any of these three areas but there were clear differences among the states. One possible explanation of these state differences relates to the differential ethnic breakdowns of the sample in the three states. It has already been suggested that there may be some indication of racial bias in the TABE. Since the administration of the Mann-Suiter was based on TABE results, it is likely that the process used to identify the learning deficient inmates was somewhat more accurate for the Caucasian sub-

jects than for the minority subjects. This issue is discussed in greater detail in Chapter V. In general, great care should be taken in interpreting these results. The Mann-Suiter Tests are screening rather than diagnostic tests and, at best, one can only say that they provide indications of the need for further and more intensive testing in the area of specific learning disabilities among prison inmates.

The Adaptive Behavior Checklist

The results of the Adaptive Behavior Checklist (a modification of the AAMD Adaptive Behavior Scale—Institutional Version) are present in TABLE 4-43 and TABLE 4-44. As was stated earlier, this checklist was primarily used to address the issue of adaptive behavior as a component of mental retardation. It was given to those inmates in the sample who received a WAIS-R Full Scale IQ below 75. Of the eligible subjects, a total of 77 were interviewed to ascertain their adaptive skills. A structured interview was used in an effort to control for sources of error due to the lack of interrater reliability. In addition, initial ratings were recorded by two separate raters simultaneously. It was found that the impressions of the two raters were either identical or were within one point in either direction on the rating scale. A detailed discussion of the Adaptive Behavior Checklist can be found in Chapter III and a copy of the Checklist is included in the Appendix.

It can be seen from an examination of TABLE 4-43 that the only skill area in which severe problems were observed was that of writing skills. Clearly this relates to the problems in the area of academic achievement as measured by the TABE. In all, only 16 individuals had an aggregate score on the checklist of 14 or more, which was the cutoff point used to determine

TABLE 4-43

ADAPTIVE BEHAVIOR CHECKLIST RESULTS - TOTAL SAMPLE

Item	No Problems	No to Mild Problems	Mild Problems	Mild to Severe Problems	Severe Problems
Independent Functioning	N = 56 73%	N = 19 13%	N = 9 12%	N = 2 3%	N = 0 0%
Physical Development	N = 69 90%	N = 7 9%	N = 1 1%	N = 0 0%	N = 0 0%
Writing Skills	N = 26 34%	N = 19 25%	N = 14 18%	N = 7 9%	N = 10 13%
Verbal Skills	N = 52 67%	N = 20 26%	N = 5 6%	N = 0 0%	N = 0 0%
Self-Direction	N = 47 61%	N = 18 23%	N = 11 14%	N = 1 1%	N = 0 0%
Responsibility	N = 48 62%	N = 19 25%	N = 9 12%	N = 1 1%	N = 0 0%
Socialization Skills	N = 46 60%	N = 20 26%	N = 9 12%	N = 2 3%	N = 0 0%

TABLE 4-44

ADAPTIVE BEHAVIOR CHECKLIST RESULTS

TOTAL SCORE

Score	Frequency	Percent	Cumulative Percent
7	16	21.05	21.05
8	11	14.47	35.53
9	8	10.53	46.05
10	10	13.16	59.21
11	7	9.21	68.42
12	6	7.89	76.32
13	2	2.63	78.95
14	4	5.26	84.21
16	1	1.32	85.53
17	2	2.63	88.16
19	3	3.95	92.11
20	2	2.63	94.74
21	2	2.63	97.37
23	1	1.32	98.68
25	1	1.32	100.00
TOTAL	76	100.00	100.00

clear adaptive behavior deficits. TABLE 4-44 presents the frequencies of scores. A score of seven indicates that the individual did not appear to have any problems in the areas assessed and a score of 35 would indicate severe problems in all seven areas.

Relationships Among the Variables

As was stated earlier, the questions of relationships among the variables were addressed by means of multiple regression techniques. Although the original list of possible predictor variables was quite extensive, inconsistent reporting procedures and lack of available information caused this list to be pared considerably. For example, much of the information on participation in academic and vocational education programs was simply not available in most institutions. Other predictors, such as the primary language spoken in the home and the number of siblings, were only used to provide descriptive data. As was noted previously, a number of multiple level variables were also collapsed into dichotomous categories.

In the final analysis, the following variables were used as independent variables in the multiple regression analyses:

1. Demographic and Background Variables
   a. Age (continuous)
   b. Ethnic background (dichotomous)
   c. Sex (dichotomous)
   d. Primary source of income prior to incarceration (dichotomous)
   e. Incidence of physical problems (dichotomous)
   f. Family background (dichotomous)
   g. Childhood problems (dichotomous)
   h. Highest grade completed (continuous)

2. Criminal Justice Variables

   a. Number of offenses (continuous)

   b. Type of offenses (continuous)

   c. Maximum sentence (continuous)

   d. Prior institutionalization (dichotomous)

A total of twelve (12) multiple regression analyses were performed. The first four of these were done using the demographic and background variables as predictors of both academic achievement and intelligence. Two analyses were performed for the entire sample and two additional analyses were done separating the learning deficient and the non-learning deficient inmates in the sample. It should be noted that all analyses which were done for the learning deficient and the non-learning deficient inmates utilized the total TABE score as the dependent variable. WAIS-R scores were not used because of the problems which would have arisen due to range restriction. The range of scores for the former group was from a Full Scale IQ of 62 to 106, whereas the range for the latter group was from 67 to 135. Because of this, it was felt that any significance found would have been very difficult to explain.

The same four analyses described above were then performed using the criminal justice variables as the predictors, and the final set of analyses used the best predictors from these two groups of variables in four overall regression analyses. The primary reason that this step by step process was used to identify the most powerful predictors relates to the main goal of multiple regression analysis which is to select, from a pool of variables, the best combination of predictors available. With samples as large as this one, almost any predictors can be statistically significant, although they

may not be very highly correlated with the dependent variable and may add virtually nothing to the power of the equation. It was felt that by examining sub-groups of potential predictors first, the best predictors from each subset could be more clearly identified. All regression analyses were done through the Statistical Package for the Social Sciences (SPSS) Regression program (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). SPSS stepwise inclusion procedures were used.

The first multiple regression analysis was used to identify the nature of the relationships between the demographic and background variables listed earlier and academic achievement level, as measured by the Tests of Adult Basic Education. The results of this analysis are summarized in TABLE 4-45. It can readily be seen from an examination of this table that both the highest grade completed and ethnic background were found to be significant predictors of achievement at the .001 level of significance. The variable, highest grade completed, which entered the equation in step 1 of the analysis, accounted for about 12% of the variance in academic achievement level (R^2 = .12357) and the ethnic background of the inmate accounted for an additional 10% (R^2 change = .10228). The combination of these two variables can be used to explain almost 23% of the variance in the total TABE scores. It is also clear that these two variables are the only significant predictors in the analysis. The addition of the other five variables (none of which were significant even at the .05 level) only increases the R^2 by a total of .00593, or about one-half of one percent.

The second multiple regression analysis was performed using these same independent variables to predict the WAIS-R Full Scale IQ. The results of this analysis are presented in TABLE 4-46. Once again, it can be seen that

TABLE 4-45

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

Step	Independent Variable	F to Enter	Multiple R	R^2	R^2 Change
1	Highest Grade Completed	97.986**	.35152	.12357	.12357
2	Ethnic Background	91.687**	.47523	.22584	.10228
3	Physical Problems	3.534	.47934	.22977	.00393
4	Source of Income	1.108	.48063	.23100	.00123
5	Sex	.392	.48108	.23144	.00044
6	Childhood Problems	.166	.48127	.23162	.00018
7	Age	.137	.48143	.23178	.00015

Note: F-level of tolerance level was insufficient for the variable family background to be entered into the regression analysis.

** significant at the .001 level

TABLE 4-46

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - FULL SCALE IQ

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Ethnic Background	125.066**	.39196	.15363	.15363
2	Highest Grade Completed	93.078**	.50447	.25449	.10086
3	Age	49.547**	.55194	.30464	.05015
4	Family Background	17.426**	.56733	.32187	.01723
5	Sex	9.825*	.57572	.33145	.00959
6	Physical Problems	.705	.57632	.33214	.00069
7	Childhood Problems	.449	.57670	.33258	.00044
8	Source of Income	.335	.57698	.33291	.00033

** significant at the .001 level

* significant at the .05 level

the best predictors were ethnic background and highest grade completed. These two variables combined accounted for about 25% of the variance in IQ (R^2 = .25449). In this analysis, however, three additional variables were found to be significant, age and family background at the .001 level and sex at the .05 level. The age of the subject added 5% to the strength of the prediction equation (R^2 change = .05015). Family background contributed 1.72% and the sex of the individual increased the R^2 by about 1%. The combination of all five of these variables can be used to explain 33% of the variance in full scale intelligence quotient. It is clear that the addition of the other three variables adds little to the strength of the prediction (R^2 change = .00146).

One of the purposes of this research was to determine whether the nature of the relationships between background characteristics and academic achievement differed for the learning deficient and the non-learning deficient inmates in the sample. In order to address this question, separate regression analyses were performed for these two groups. The dependent variable was the total TABE score. Inmates were identified as learning deficient if they scored at or below the fifth grade level on any one or combination of TABE subtests.

The results of these analyses are summarized in TABLE 4-47 and TABLE 4-48. Although the highest grade completed was again significant in both of these analyses, it is clear that the nature of the relationships is, in general, quite different. The best predictor for the learning deficient inmates was highest grade completed. If one looks at the R^2, however, it can be seen that this variable only explains about 3% of the variance in academic achievement (R^2 = .03305). The addition of the only other statis-

TABLE 4-47

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE

LEARNING DEFICIENT

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Highest Grade Completed	9.708*	.18180	.03305	.03305
2	Physical Problems	5.082*	.22385	.05011	.01706
3	Ethnic Background	1.173	.23681	.05608	.00597
4	Source of Income	1.877	.24968	.06234	.00626
5	Sex	.515	.25310	.06406	.00172
6	Childhood Problems	.227	.25460	.06482	.00076
7	Age	.181	.25580	.06543	.00061
8	Family Background	.033	.25602	.06554	.00011

* significant at the .05 level

TABLE 4-48

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

NON-LEARNING DEFICIENT

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Ethnic Background	72.209**	.38737	.15006	.15006
2	Highest Grade Completed	52.353**	.49671	.24995	.00323
3	Sex	1.752	.49995	.24995	.00323
4	Family Background	1.041	.50186	.25186	.00192
5	Source of Income	.655	.50306	.25307	.00121
6	Childhood Problems	.629	.50422	.25423	.00116
7	Age	.400	.50495	.25497	.00074
8	Physical Problems	.221	.50535	.25538	.00041

** significant at the .001 level

tically significant variable, incidence of physical problems, added less than 2% to the strength of the prediction (R^2 change = .01706) and, in general, it is evident that none of these variables contribute much in an attempt to explain academic achievement level for this group (total R^2 = .06554).

When these results are contrasted with the results of the same analysis for the non-learning deficient inmates, the differences are dramatic. The total R^2 for this equation is .25538, indicating that this combination of variables can explain more than 25% of the variance in achievement. Ethnic background accounted for 15% of this variance and highest grade completed explained an additional 10%. The other six variables, none of which are statistically significant, only increased the R^2 by .00866, less than 1%. The indication is that, although these particular variables are useful in explaining academic achievement for the non-learning deficient inmates in the sample, they do not contribute much to the explanation of achievement among inmates with learning deficiencies.

The second major step in the multiple regression analysis was to run all four of the previous analyses using the criminal justice variables as the predictors. The first of these analyses was designed to examine the nature of the relationship between the criminal justice data for the entire sample and the total scores on the TABE. The results of this analysis are summarized in TABLE 4-49. Two of the predictors, type of offenses and maximum sentence, were found to be significant at the .05 level. It should be noted, however, that the R^2 associated with this analysis is not particularly impressive (total R^2 = .01630). In fact, the combination of these four variables can only be used to explain less than 2% of the variance in

TABLE 4-49

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Type of Offenses	5.839*	.08956	.00802	.00802
2	Maximum Sentence	5.125*	.12257	.01502	.00700
3	Number of Offenses	.888	.12743	.01624	.00121
4	Prior Institution	.04624	.12768	.01630	.00006

* significant at the .05 level

academic achievement. The two significant variables only account for about 1.5% of the variance.

The second analysis in this group examined the relationship between Full Scale IQ and the criminal justice variables. Again, an inspection of the results of this analysis in TABLE 4-50 shows that, although the maximum sentence is a statistically significant predictor of IQ at the .001 level, its contribution only accounts for about 4% of the variance (R^2 = .03797), and the combination of all four variables does not increase the R^2 by much (total R^2 = .03903). The statistical significance of these variables is most likely a function of the large sample size.

The criminal justice variables were then examined to determine whether the nature of the relationships was different for the learning deficient and the non-learning deficient inmates. The results of these analyses are summarized in TABLE 4-51 and TABLE 4-52. Again it can be seen that the results of these analyses indicate that the relationships differ between the two groups. The analysis for learning deficient individuals indicates that none of the criminal justice variables were found to be significant at the .05 level. The only variable which was found to be significant in predicting academic achievement for the non-learning deficient inmates in the sample was the maximum sentence. It should be noted, however, that this variable only accounted for about 1.5% of the variance in the total TABE scores. In general, none of the criminal justice variables appear to be very useful as predictors of either WAIS-R or TABE scores. In light of the fact that the maximum sentence was found to be statistically significant in three of the four analyses (even though it did not contribute a great deal to the R^2) it was included in the overall analyses.

TABLE 4-50

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - FULL SCALE IQ

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Maximum Sentence	28.178**	.19485	.03797	.03797
2	Number of Offenses	.554	.19676	.03871	.00075
3	Type of Offenses	.147	.19726	.03891	.00020
4	Prior Institution	.090	.19757	.03903	.00012

** significant at the .001 level

TABLE 4-51

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

LEARNING DEFICIENT

Step	Independent Variable	F*	Multiple R	R^2	R^2 Change
1	Number of Offenses	.353	.03445	.00119	.00119
2	Type of Offenses	.129	.04025	.00162	.00043
3	Prior Institution	.040	.04191	.00176	.00014
4	Maximum Sentence	.022	.04280	.00183	.00008

* no significance found

TABLE 4-52

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

NON-LEARNING DEFICIENT

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Maximum Sentence	6.206*	.12024	.01446	.01446
2	Number of Offenses	2.723	.14415	.02078	.00632
3	Type of Offenses	1.081	.15620	.02329	.00251
4	Prior Institution	.727	.15803	.02497	.00169

* no significance found

The final set of regression analyses was performed using the variables which were found to be statistically significant from the first two sets of analyses. These variables were the following: Highest grade completed; Ethnic background; Incidence of physical problems; Maximum sentence; Sex, and Age. Again, four analyses were done. The first of these investigated the relationship between the variables listed above and the total TABE scores of the individuals in the sample. The results of this analysis are presented in TABLE 4-53. It is clear from this table that the only variables which are statistically significant are the highest grade completed and the ethnic background of the inmate. These two variables account for a total of 22.5% of the variance in academic achievement, as measured by the Tests of Adult Basic Education. The addition of the other five variables adds less than 1% to the explanatory power of the equation. This finding should not be surprising since, in attempting to predict academic achievement from each of the subsets of independent variables, ethnic background and highest grade completed contributed far more than did the maximum sentence information.

TABLE 4-54 summarizes the results of the multiple regression analysis which was performed to try to determine the relationship of these independent variables to the WAIS-R Full Scale IQ. In this analysis, six of the seven variables were found to be significant, five at the .001 level of significance and one at the .05 level. The only variable which was not found to be significant was the incidence of physical problems. This could have been anticipated since the only equation in which this particular variable was significant was the equation in which the total TABE score was being examined for the learning deficient inmates in the sample. The combination

TABLE 4-53

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Highest Grade Completed	98.559**	.35376	.12514	.12514
2	Ethnic Background	88.781**	.47448	.22513	.09999
3	Physical Problems	3.814	.47897	.22941	.00428
4	Maximum Sentence	2.233	.48157	.23191	.00250
5	Sex	.792	.48249	.23280	.00089
6	Age	.015	.48251	.23282	.00002

** significant at the .001 level

TABLE 4-54

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - FULL SCALE IQ

Step	Independent Variable	F	Multiple R	R^2	R^2 Change
1	Ethnic Background	123.877**	.39184	.15354	.15354
2	Highest Grade Completed	92.263**	.50438	.25440	.10087
3	Age	48.424**	.55127	.30390	.04950
4	Family Background	16.939**	.56641	.32082	.01692
5	Maximum Sentence	15.010**	.57923	.33551	.01469
6	Sex	8.820*	.58655	.34404	.0853
7	Physical Problems	.796	.58721	.34481	.00077

** significant at the .001 level

* significant at the .05 level

of the other six variables is seen to account for 34% of the variance in Full Scale IQ. It should be noted, however, that most of this variance (30%) is again explained by the combination of ethnic background and highest grade completed.

An examination of the information presented in TABLE 4-55 (learning deficient inmates) and TABLE 4-56 (non-learning deficient inmates) indicates that, once again, the relationships among these variables for the two groups differ greatly. Clearly, the best predictor of academic achievement for the learning deficient group is the highest grade completed. In fact, this variable was found to be the only significant predictor. In spite of its statistical signficance, however, this variable only accounts for less than 5% of the variance in the total TABE scores for this group, and, overall, the combination of these seven variables can only be used to explain about 8% of this variance.

The information which is summarized in TABLE 4-56, on the other hand, indicates that this combination of variables accounts for over 24% of the variance in total TABE scores for the non-learning deficient inmates in the sample. The two statistically significant variables, Ethnic Background and Highest Grade Completed, explain 23% of the variance in academic achievement. It is difficult to conjecture why these differences exist so consistently between these two groups. The indication is that this particular set of variables, including all those investigated in prior analyses, have little relationship to academic achievement levels for the learning deficient inmates in the sample.

There are several possible statistical issues which could help to explain these findings. Of those investigated, however, none appear to have

TABLE 4-55

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

LEARNING DEFICIENT

Step	Independent Variable	F to Enter	Multiple R	R^2	R^2 Change
1	Highest Grade Completed	11.730**	.21893	.04793	.04793
2	Physical Problems	3.763	.25125	.06313	.01520
3	Age	1.622	.26393	.06966	.00653
4	Ethnic Background	.912	.27080	.07333	.00367
5	Sex	.889	.27734	.07692	.00358
6	Family Background	.528	.28116	.07905	.00213
7	Maximum Sentence	.057	.28157	.07928	.00023

** significant at the .001 level

* significant at the .05 level

TABLE 4-56

SUMMARY TABLE - MULTIPLE REGRESSION ANALYSIS

DEPENDENT VARIABLE - TOTAL TABE SCORE

NON-LEARNING DEFICIENT

Step	Independent Variable	F to Enter	Multiple R	R^2	R^2 Change
1	Ethnic Background	54.213**	.36851	.13580	.13580
2	Highest Grade Completed	43.099**	.48168	.23202	.09622
3	Maximum Sentence	3.655	.49002	.24011	.00810
4	Physical Problems	1.654	.49373	.24377	.00366
5	Sex	.671	.49524	.24526	.00149
6	Family Background	.557	.49648	.24649	.00123

Note: F-level or tolerance level was insufficient for the variable age to be entered into the regression analysis.

** significant at the .001 level

* significant at the .05 level

had a noticeable effect on these analyses. The problem of range restriction was discussed briefly earlier in this chapter. When a sample is cut up into groups, based on scores on a given criterion variable, what can occur is that the range of scores becomes more limited for one group than for the other. This was found to be the case with the WAIS-R. In the case of the TABE, however, group identification was based on scores on one or more subtests, rather than the total score, thus leading to more potential variability in the total score ranges for the learning deficient group. In order to check for the possibility of range restriction, the ranges of scores were visually inspected for both the learning deficient and the non-learning deficient inmates in the sample. It was found that the range for the former group was from 12 to 270, a clear indication that the issue of range restriction was not impacting on these analyses.

Another statistical consideration which could have an effect on the results of the multiple regression analyses is the possible impact of outliers in the dependent variables. In general, however, the large sample sizes in these analyses would minimize any such effect. A final statistical issue which was investigated was the possible influence of samples which are not very heterogeneous with respect to one or more of the independent variables. It has already been mentioned that the ethnic breakdown of the learning deficient inmates was notably different from that of the non-learning deficient subjects. In order to ascertain whether the ethnic breakdown was related to the lack of significance for this variable in the regression analyses for the learning deficient inmates, the split for this group was investigated to see to what extent it limited the possible correlation between race and achievement. It was found that, in fact, the effect of this

breakdown was insignificant and, therefore, this statistical consideration was also eliminated in attempts to explain the differences in the relationships for these two groups.

In summary, none of the possible statistical explanations were found to be appropriate in explaining the differing nature of the relationships for the learning deficient and the non-learning deficient inmates in the sample. In the absence of other information it is not possible, within the constraints of this research study, to accurately state what is accounting for these findings.

Summary

The issues raised and the research questions which followed and which were stated in Chapter III are presented again here. The results of the analyses are presented in summary as they relate to these questions.

1. Is there any indication of systematic bias introduced as a result of the voluntary nature of this research?

While there was no substantial difference between the participants on the basis of ethnic group, there was a slight bias in both intelligence test scores and math achievement levels. In both of these cases the non-participants scored slightly lower than the participants. The indications are, therefore, that if the results of the analyses are biased in any direction they are producing consistent underestimates of the learning deficient and mentally retarded inmates in the population of interest.

2. What is the nature of the sample in terms of background and demographic characteristics?

In general, it can be stated, that the individuals in the sample have come from culturally and educationally deprived backgrounds. The majority

of the individuals have no consistent work history, have not completed high school nor have they had any formal vocational training. The average age of the sample is thirty and is lower than the average age of the general population. Ethnic minority groups make up a majority of the sample and the indications are that these groups are disproportionately represented in the prison population. There was a high incidence of unstable family background and childhood problems including drug and alcohol abuse. The criminal justice histories of the sample indicate that many of them have been convicted of previous offenses either at the juvenile or at the adult level. The median sentence for the sample is twelve years and it was found that about 60% were serving sentences of fifteen years or less.

3. What percent of the sample is learning deficient and how does this compare to the general population?

It was found that 42% of the sample were functioning at or below the fifth grade level on the TABE. Since the fifth grade level is generally considered to be the determiner of functional literacy it can be said that almost half of the sample do not have the literacy skills required to function effectively in society. While there are no reliable national figure available with which to compare this information, it is believed to be substantially higher than one might expect to find in the general population.

4. What is the distribution of intelligence among the target population and to what extent does it compare to that of the norming sample of the WAIS-R?

The average Full Scale IQ Score for the sample was 86 which is 14 points, or almost one standard deviation, below the national mean. Approximately 15% of the sample scored below a Full Scale IQ of 75 on the WAIS-R.

A score of 75 is generally considered to be the cut-off for identifying individuals who are mentally retarded. The Adaptive Behavior Checklist, which was administered to corroborate evidence of retardation, was given to 77 subjects. Of these, 21% showed evidence of deficits in adaptive behavior skills, above and beyond those deficits in the areas which were assumed by virtue of their incarceration. There are dramatic differences in IQ scores between the ethnic groups and among the states. The most notable differences, however, are between the learning deficient group ($\bar{X}$ = 78) and the non-learning deficient group ($\bar{X}$ = 92). This gives further incidence to support the contention that any measure of ability is influenced by a wide variety of cultural and other background factors including academic achievement. These data support national norming figures for the WAIS-R which suggest that a minority group members score consistently lower than Caucasians and that individuals from the South consistently score lower than the North-East and North-West.

5. What is the distribution of specific types of learning deficiencies in the adult offender population and how does this compare to the distribution in the general population?

A very small percentage (2%) of the sample can be considered learning deficient due to lack of access to formal education. There is evidence to indicate that as many as 25% of the individuals in the sample have some symptoms of a learning disability. This is substantially higher than the 3% in the general population. In the learning deficient subjects the incidence of learning disabilities rises to 82%. In general there were more problems indicated in the auditory than the visual modality. An accurate assessment of mental retardation was not possible due to the lack of an appropriate

adaptive behavior instrument. Indications are, however, that there may be a substantially higher percentage of moderately retarded individuals in the prison population than in the general population. While the information available on physical impairments was incomplete at best, there were some indications of a disproportionately high incidence of sensory and neurological problems.

6. What is the nature of the relationship between certain background and demographic variables and academic achievement levels among incarcerated adults?

The two best predictors of academic achievement for the total sample were the highest grade completed and ethnic group. The combination of these two variables account for more than 22% of the variance in total TABE Scores.

7. What is the nature of the relationship between certain background and demographic characteristics and intelligence levels among incarcerated adults?

There were five variables at the .001 level and one at the .05 level which were found to be statistically significant predictors of Full Scale IQ Scores for the total sample. Once again ethnic background and the highest grade completed accounted for most of the variance (25%). In addition, the variables of age, family background, maximum sentence and the sex of the individual contributed significantly to this relationship. The combination of these six variables can be used to explain a total of 34% of the variance in Full Scale IQ.

8. What is the nature of the relationship between background and demographic variables and the incidence of learning deficiencies among the adult offender population?

When the relationships are examined separately for the learning and non-learning deficient inmates in the sample, it was found that, although the nature of the relationships remained the same for the non-learning deficient, it changed dramatically for the learning deficient. The only variable which was found to be significant for this group was the highest grade completed, however, this variable only accounted for 5% of the variance in the total TABE Scores. The differences in the relationships between the two groups are difficult to explain. It can only be suggested that the apparent cultural bias of the TABE may have explained the fact that ethnic background was found to be a good predictor for the non-learning deficient group but was not found to be helpful in explaining differences in achievement for the learning deficient.

CHAPTER V

SUMMARY, CONCLUSIONS, POLICY, AND RESEARCH RECOMMENDATIONS

In order to address the questions posed in the study with regard to the nature and prevalence of learning deficiencies among adult inmates, a sample of inmates was drawn from three institutions in each of the states of Louisiana, Pennsylvania, and Washington. In each state two of the institutions selected were male and one was female. Each inmate selected and who then volunteered to participate in the project was administered the Tests of Adult Basic Education (TABE) to determine their levels of academic achievement. If an inmate scored at or below the fifth grade level on any subtest, it was determined that some learning deficiency was present. Those inmates who were identified as learning deficient were given the Mann-Sulter Learning Disabilities Screening Tests to assess the incidence of disabilities in visual and auditory closure, memory, and discrimination. Each inmate was also administered the Wechsler Adult Intelligence Scale-Revised (WAIS-R) in an attempt to determine ability levels. Subjects scoring below a Full Scale IQ of 75 on the WAIS-R were given an Adaptive Behavior Checklist in an attempt to address the issue of adaptive behavior as a component of mental retardation. The Checklist was based on Part I of the American Association on Mental Deficiency's Adaptive Behavior Scale-Institutional Version. Information was also gathered during testing sessions and from institutional records on selected demographic, criminal justice, family and educational background variables.

This final chapter is a summary of the study's findings as they relate to the demographic, background, achievement, and ability variables and their relationships to learning deficiencies. Conclusions, based on these find-

ings, are presented as are policy recommendations with regard to the diagnosis and treatment of learning deficiencies in adult inmate populations. Recommendations for further research are also made.

Summary

Demographic and Background Variables

Age. The age range of the sample was from 15 years to 65 years with the average age being 30 years. This compares to a median age of 30 years in the national population.

Sex. Sex differences in the sample by age, ethnic group and region were comparable to national norms.

Ethnic group. Caucasians made up 42% of the sample and 58% came from minority groups. The largest ethnic group in the sample was Afro-American (55%). It should be noted that in the general population Caucasians make up 83%. The sample showed some differences by state with Pennsylvania and Louisiana having 70% from minority groups while only 30% of the Washington sample came from minority groups.

Language. This was not considered to be an important factor as 93% of the sample came from homes where English was the primary language spoken.

Employment. When considering the primary source of income prior to incarceration, records indicated that almost 50% of the sample either never had been employed or had held occasional jobs. Of the balance, 84% were either laborers or semi-skilled. Only a little over 8% were considered to have held skilled or professional jobs.

Physical problems. While the information available in the prior records on specific physical problems is both sketchy and unreliable, it is important to note that, in those areas reported, sensory problems and a

combination of problems including these were the highest categories.

Family Background Variables

Family situation. Almost 70% of those inmates for whom information is available come from unstable childhood home environments.

Incidence of childhood problems. Accurate information on this, as well as on the death of parents or number of siblings was difficult to acquire. Many of the formal records do not address these questions. It is considered important, however, to note that in 50% of the sample some type of childhood problem was reported. This is probably an underestimate of the true incidence. The most frequent problem reported was drug abuse (19%) or a combination of problems including drug and alcohol abuse.

Educational Background Variables

Highest grade completed. The mean grade level completed by the inmates in the sample was tenth grade. There were no noticeable differences among the states but there was a high level of variability. Six percent of the sample reported that they never went beyond elementary school while 13% reported some kind of post secondary education. This latter figure includes post secondary educational experience while incarcerated.

Prior special school placement. While 50% of the sample had no information in their records regarding placement in special school programs it is noted that, of those for whom records are available, 16% had been placed in special school programs in elementary school and 20% in secondary school. A relatively high percentage of the sample identified as learning deficient in the study had been previously identified as such. For those previously identified and for whom information was available, 4% had been diagnosed as learning disabled, 14% as socially and emotionally disturbed, and 82% in

other categoried areas including mentally retarded and/or brain damaged.

It is important to note that the lack of availability of educational information led to descriptive rather than relational analyses.

Criminal Justice Variables

Prior adjudication as delinquent. Self report of prior adjudication as a delinquent while a juvenile (43%) was notably lower than the incidence reported in the official institutional record (60%). It is suggested that the latter figure is more reliable.

Types of offenses. The evidence of violent crime is high (68%) among the sample and it would appear that the level of violence tends to increase as the inmate gets older and his or her contact with the criminal justice system continues.

Number of offenses and length of sentence. Inmates are currently serving sentences for an average of two offenses (S = 1.3). The information available on prior offenses is unreliable because of the inconsistent reporting and coding of the data. The median sentence being served is 12 years. The maximum sentence for 60% of the sample is less than 15 years; 31% have between 15 and 40 years while 6% are serving life sentences.

Prior institutionalization. For the total sample 21% of the inmates for whom juvenile offenses were reported spent time in a juvenile institution. This figure increases to about 43% for adult offenses. A higher percent of minority groups and a higher percentage of males had been institutionalized for prior offenses. The difference between males (24%) and females (10%) is especially dramatic at the juvenile level.

Test Results

Academic achievement. The average grade level equivalent for inmates

who were administered the TABE was 6.7. This is more than 3 years below the average highest grade reported for the sample. The difference between the grade equivalent scores for the learning deficient ($\bar{X}$ = 4.7) and the non-learning deficient ($\bar{X}$ = 8.2) is notable. There are also clear indications of ethnic and state differences in the area of academic achievement.

A significant finding was that 42% of this sample scored at or below the fifth grade level on one or more of the subtests on the TABE and were therefore considered to be learning deficient.

Ability levels. The average Full Scale IQ for the sample to whom the WAIS-R was administered was 86 (S = 12). The Verbal IQ was 86 (S = 12), slightly lower than the Performance IQ of 89 (S = 13). In general, the sample scored almost one standard deviation below national norms on the WAIS-R. There are clear indications of ethnic and state differences which are consistent with national findings. Dramatic differences (14 points or one standard deviation) exist between the learning deficient and the non-learning deficient inmates in the sample. These differences may reflect the confounding of ability and achievement. There is singularly less variability in the scores of the learning deficient subjects in the sample.

Disability levels. The Mann-Suiter Learning Disabilities Screening Tests, administered to the inmates scoring at or below the fifth grade level on one or more subtests of the TABE, indicated that 82% of those tested had problems in one or more of the areas assessed. Most errors were committed on those tests screening for problems in the areas of visual memory, visual closure, auditory closure and auditory discrimination. In general, the evidence indicated more problems in the auditory modality than in the visual modality and more problems in both auditory and visual discrimination than

in either closure or memory.

The Adaptive Behavior Checklist, adapted from Part I of the AAMD Adaptive Behavior Scale and given to those inmates scoring below the Full Scale IQ of 75 on the WAIS-R, indicated that 21% scored more than 14, which was judged to indicate problems of adaptive behavior. It should be noted that the Checklist did not address the problem of maladaptive behavior which is covered in Part II of the AAMD--Adaptive Behavior Scale.

Relationships

Separate regression analyses were run for background and demographic and criminal justice variables using, in turn, the total TABE scores, WAIS-R scores and the TABE-learning deficient and TABE-non-learning deficient scores as the dependent variables. The best predictors among the background demographic and criminal justice variables were then run again, using total TABE, WAIS-R, TABE learning deficient and TABE non-learning deficient scores.

When the regression analyses using background and demographic variables with total TABE scores were run, two variables were significant at the .001 level. These were the highest grade completed and ethnic background. Together they accounted for 23% of the variance.

When the WAIS-R Full Scale IQ scores replaced the TABE as the dependent variable in the regression analysis, ethnic background and highest grade completed were significant at the .001 level as were age and family background. Sex was significant at the .05 level. The combination of all five variables accounted for 33% of the variance.

The TABE scores for the learning deficient subjects were run with the background and demographic variables. In this regression analysis, the

highest grade completed and incidence of physical problems reported were significant at the .05 level but together they only accounted for 5% of the variance.

The same analysis using the TABE scores for the non-learning deficient subjects indicated that ethnic background and highest grade completed were significant at the .001 level and, when combined, accounted for 25% of the variance.

The same four regression analyses were run using the criminal justice variables. When run using the total TABE scores as the dependent variable, type of offense and maximum sentence were significant at the .05 level but, when combined, only accounted for less than 2% of the variance. When run using the WAIS-R scores as the dependent variable, only maximum sentence was significant at the .001 level and accounted for 4% of the variance. It should be noted here that statistical significance was probably due, in part, to the large sample size and, as seen, has little effect in explaining any variance.

No significance was found in the regression analyses using criminal justice variables with the TABE scores for the learning deficient. With the non-learning deficient sample, however, maximum sentence was significant at the .05 level but again only accounted for less than 2% of the variance.

When the best predictors from the demographic and background variables and criminal justice variables were run in the regression analysis with the TABE scores for the total sample, the highest grade completed and ethnic background were both significant at the .001 level and had a combined variance of 22%. The same predictors run against WAIS-R scores indicated that ethnic background, highest grade completed, age, family background and

maximum sentence were all significant at the .001 level and sex was significant at the .05 level. The combination of all these significant variables accounted for 34% of the variance in total TABE scores.

The overall regression analyses which were done separately for the learning deficient and the non-learning deficient inmates again indicated differing relationships among the variables for these two groups. The only significant predictor of academic achievement for the learning deficient group was the highest grade completed. For the non-learning deficient group, both ethnic background and the highest grade completed were significant It was clear that a great deal more of the variance in total TABE score can be explained by this set of variables for the non-learning deficient inmates in the sample.

Conclusions

Based upon the results of this research project the following conclusions are drawn:

1. The average age of inmates in the state prisons utilized in the study is lower than the median age of the general adult population.
2. Language is not considered as a significant problem in the states sampled and there is no difference between the learning deficient and non-learning deficient groups on this variable.
3. Minorities are disproportionately represented in the sample as a whole but particularly in the learning deficient members of the sample (73%) when compared to the non-learning deficient (45%).
4. A substantial number of prisoners have a poor and/or inconsistent employment history. This, when combined with the educational data on inmates, implies that it is difficult not to conclude that a relationship

exists between educational background, employment, and crime regardless of whether or not one is learning deficient.

5. While there are problems in collecting accurate and consistent data, there appears to be an unusually high proportion of inmates who report having sensory or neurological problems.

6. More than two-thirds of prisoners in state prisons come from unstable home environments. The learning deficient inmate tends to come from unstable circumstances more often than the non-learning deficient. Difficulties caused by such unstable conditions have been compounded by other childhood problems with one-half of the sample reporting such problems. Drug and combined drug and alcohol abuse, are the most frequently reported problem areas. This high incidence of childhood problems is probably substantially under-reported.

7. While information on inmates' educational histories prior to incarceration was infrequently and inconsistently reported, it was found that the percentage of the individuals the project identified as learning deficient, who had been <u>previously</u> identified as such, was noticeably higher than that percentage for those individuals that the project <u>did</u> identify as learning deficient.

8. A substantial number of inmates--at least 60%-- had been adjudicated delinquent as juveniles. The rate of those adjudicated was higher for the learning deficient (63%) than for the non-learning deficient (56%).

9. As contact with the various aspects of the criminal justice systems increases over time so does the violence of the crimes committed. Learning deficient inmates commit slightly more violent crimes than do the non-learning deficient.

10. Males are incarcerated more frequently than are females and minorities more frequently than Caucasians.

11. Inmates in the sample score more than three years below the highest grade attended. Schooling does not result in equivalent grade achievement. This is especially so for the learning deficient inmates who scored, on the average, five years below the highest grade completed despite the fact that only 22 subjects (2.2% of the total sample) left school at or before the end of the fifth grade. Given the fact that the average grade level for the total sample is only 6.7 (based on the TABE score), there is an indication that, even of that group not defined as learning deficient, clear academic deficits exist. This is particularly true when one compares this to their years of exposure to formal education.

12. Almost half of the sample (42%) have some form of functional illiteracy under the commonly accepted definition of the term. That is, this learning deficient group had a total average grade equivalent of 4.7 on the TABE.

13. In spite of the fact that there were no differences by ethnic group, sex, or state in the highest grade completed, there were noticeable differences by state and ethnic group in the total TABE scores. While these differences reflect the reported norms by region and ethnic groups on the TABE and on other tests reported in the records, the question remains as to why these differences continue to exist. One can only conjecture that achievement tests in general reflect a cultural bias and/or that there are inequities in the quality of education in the communities from which minorities come. It is also clear that

these barriers have not been overcome by the educational opportunities offered within the prison systems.

14. The issue of determining ability in an individual or a group is fraught with controversy and difficulty. The construct of intelligence is both complex and fluid and is influenced, among other things, by education and experience. The results of the WAIS-R testing must be examined, therefore, with great care and any conclusions stated in guarded terms. Given the information collected on demographic, background, educational and criminal justice variables it is not surprising to discover that the average Full Scale IQ for the total sample is depressed and is, in fact, almost one standard deviation below the national norms for the WAIS-R. The regional and ethnic group differences reflect, as noted earlier, the confounding factors involved in the determination and measurement of ability variables. The particular influence of the institutional environment has a further depressing effect on these results. Observations by the clinicians during the testing sessions indicated that the WAIS-R results were producing consistent underestimates of overall intellectual functioning.

The dramatic differences in the WAIS-R scores between the learning deficient and the non-learning deficient subjects in the sample give further evidence to support the confounding involved in measuring intellectual functioning. In addition to such factors as unstable home, poor employment history, lack of educational opportunity and vocational training and an unusually high incidence of possible learning disabilities, the academic achievement levels for the learning deficient group, which place them in the functional illiterate category,

impact even more on the WAIS-R scores. The correlations between achievement levels and measures of intelligence are consistently high, which further clouds an already murky issue. Nevertheless, we must conclude that intellectual functioning, as defined and measured by the WAIS-R, is substantially lower for this prison sample than it is for the general population.

15. The screening procedures of the Mann Suiter show that 25% of the total sample have some indications of specific learning disabilities in the areas of visual and auditory skills. When one examines the incidence of possible disabilities in the learning deficient sample, this incidence jumps to 82%. Even with the qualifications and cautions regarding the use of this screening instrument expressed earlier, these findings are startling and dramatic. There were more problems indicated in the auditory than in the visual modality. These differences in the area of auditory modality, as well as in memory skills, may in part be a reflection of the specific tasks which require the use of standard English.

When the subtests are grouped according to skill areas (discrimination, closure and memory), significant state differences are found in all areas. Significant differences between ethnic groups are found in memory skills. As was noted earlier, the TABE scores, used to identify learning deficiencies, show an ethnic bias. Therefore, it is difficult to explain the state differences in discrimination, closure and memory skills because of the confounding of the differential ethnic breakdown in the respective states.

Although only a screening measure, the Mann-Suiter proved to be

relatively accurate in identifying those subjects in the sample who had previously been diagnosed as having learning problems. Of the individuals identified as learning deficient, 33% had been placed in special education programs at the elementary level and 39% at the secondary level. In contrast, 5% and 7% respectively, of the non-learning deficient subjects had been placed in special programs. The conclusion follows that, in spite of prior identification, little has been done to remediate those problems diagnosed. The implication is that the systems of education, both within the prisons and in the communities, may themselves be deficient in addressing the needs of these individuals.

16. There is no accurate measure of adaptive behavior for an incarcerated population. Even the best available instrument--the AAMD Behavior Adaptive Behavior Scale--is inappropriate because of the heavy emphasis on anti-social behavior which would pre-determine the identification of a prison population as maladaptive. The adaptation of this instrument which was used in the study, the Adaptive Behavior Checklist, does not redress this lack and, consequently, all the findings in this area are tentative in nature.

If the AAMD Adaptive Behavior Scale was used in its entirety, all those subjects scoring below a Full Scale score of 75 on the WAIS-R, almost one-third of the sample, would have to be identified as mentally retarded. This, it is suggested, would be inaccurate. Since the issue of maladaptive behavior related to personality disorders was not addressed in the derived Checklist, the incidence of mental retardation was quite low (2%). This, too, is inaccurate. It must be concluded that the true incidence of mental retardation in this population is

somewhere between these two estimates. It should be noted also, that in addition to those subjects identified in this study as mentally retarded, there exists another group of inmates who, on the basis of prior diagnosis, have been placed in other types of facilities.

17. Of the sample taking the TABE, 25% showed some indication of specific learning disabilities. This is substantially higher than the 6% incidence found in the normal population. This high incidence is, no doubt, related to the combined effects of the demographic, background, criminal justice, educational, ability and achievement variables discussed previously.

18. The major theories of causality which were discussed in Chapter II were supported by the findings of this study. The fact that minorities are disproportionately represented in the sample as a whole, and even more so in the learning-deficient group, gives support to the causal theory of differential treatment. The school failure theory is also supported by the substantial difference between the level of academic achievement and the highest grade completed while the link between learning disabilities and juvenile delinquency is also reinforced. The conclusion to be drawn from this evidence must be that it may be the interactive effect of socio-economic background, unstable childhood home, and the incidence of specific learning disabilities that may be the single most important determiner of anti-social behavior which results in eventual contact with the criminal justice system.

19. It is clear that the most consistent predictor of both academic achievement and Full Scale IQ is the highest grade completed. This should not be surprising in light of earlier discussions regarding the

confounding effects of educational and cultural background in assessing ability variables. It is difficult to explain the differences between the relationships among the variables for the learning deficient and the non-learning deficient groups in the sample. One can only hypothesize that the apparent ethnic bias of the TABE, which was discussed earlier, may have impacted on the fact that the variable of ethnic background was found to be a good predictor for the non-learning deficient group but was not found to be helpful in explaining differences in achievement for the learning deficient inmates.

20. The intent of this study was to describe the nature and prevalence of learning deficiencies among adult inmates and to explore the interrelationship to various demographic, background and criminal justice variables. The conclusions drawn and set out above related to this thrust. It is difficult, however, to avoid seeing the general patterns which exist in the prison population which lead to a broader conclusion regarding the characteristics of incarcerated individuals. As a group, more often than not, they are a deprived population. They come from unstable family environments, have severe educational deficits, have little or no vocational training, have not had steady employment, and abuse drugs and alcohol. Many have been in contact with the criminal justice system since childhood and come from ethnic minorities. The educational and treatment systems which currently exist on the street, in schools and in the prisons have not, it would seem, made any significant inroads in helping them overcome these barriers. Given the problems facing the prison system (over-crowding, under-funding, under-staffing and lack of appropriate training) it is hardly likely that the

beleaguered teachers and counselors can do much to improve the situation in the foreseeable future.

Policy and Research Recommendations

Based on the findings of this study, the following policy and research recommendations are made for consideration by the National Institute of Justice and the U.S. Justice Department:

1. The specific standards which apply to the treatment and education of prisoners in state and federal prisons should be amended to more fully address the needs for adequate diagnosis and treatment of learning deficiencies.
2. The level of sophistication of the professional training of teachers and counselors who work with incarcerated individuals should be substantially increased and improved. The needs of this unique population are more complex and must be addressed in such a peculiar environment that traditional teacher and counselor training programs do not give the special skills needed to work with a substantially learning deficient population.
3. Educational programs in prison should be redesigned to meet the basic educational needs of the vast majority of inmates. These needs include increased emphasis on functional literacy skills and vocational and social education in the most meaningful and practical sense. It is recognized that these initial recommendations require an increased expenditure for prison education. It is acknowledged, however, that this is in complete contradiction to the real trends in almost all state systems which are for reduced expenditures in the areas of education and treatment. The truth of the matter is that federal, state and

local politicians will not appropriate funds for such programs. It is equally true that the process of alienation of delinquents and prisoners is ineluctable unless meaningful changes occur in the number of educational opportunities, the quality of those offerings, and in the training and quality of staff in those programs.

4. Specific screening procedures should be initiated during i..take into the prison systems. This educational diagnosis should be sophisticated and attend particularly to sensory and neurological impairments.
5. These screening procedures should be standardized nationwide and a common system of reporting and keeping records be implemented.
6. Specific and sophisticated diagnostic treatment programs should be available throughout the whole network of agencies which deal with the juvenile delinquent.
7. Drug and alcohol abuse prevention and intervention programs should be emphasized at the juvenile level.
8. The public schools have a significant role to play in intervening in the vicious cycle which leads to prison. They should be encouraged to react more quickly to identify and treat the learning deficient student.
9. The effectiveness of the juvenile justice system needs to be addressed. The findings of this study indicate, once more, that the longer an individual is in contact with the criminal justice system, the more violent and hardened the criminal becomes. Institutions do, in fact, appear to be "Schools for Crime." Diagnosis and treatment at all levels lack sophistication and until they improve, rehabilitation will continue to be a myth.

10. It is clear that there are substantial sex and ethnic inequities in the system. These inequities should be examined in much more detail and redressed.

11. The findings of this study underscore the recent recommendations from three major committees for more equitable, more effective, and more rigorous education at all levels across the nation. Such improvements are needed in the nation's prisons as well as in its schools!

12. There is a continued need to examine the tests used in assessing populations such as the one studied in this project. The validity of these tests is in doubt and, therefore, any interpretations are suspect, given the cultural bias of the instrument, the influence of the prison environment, and the procedures used in test administration. There is a particular need for a more appropriate adaptive behavior measure for prison populations.

13. The value and utility of institutional records would be enhanced for all, not least to the researcher, if there were a national, uniform and centralized system in which data were consistently and reliably reported.

14. Future research with this population should address the following issues:

    a. the effect of institutionalization on the intellectual functioning of adult inmates

    b. the interrelationships of auditory and visual skills on the ability and achievement levels of adult inmates

    c. the prevalence and nature of sensory and neurological problems and their influence on the ability and achievement of this population

d. the background, demographic and education variables should be systematically addressed to determine their relationship to criminal justice variables

e. a cluster analysis of the data collected should be done a a means of identifying subgroups of the sample with common patterns of characteristics

f. diagnosis, as opposed to screening for a more accurate identification of specific learning disabilities should be undertaken

g. the development of appropriate instruments to assess academic achievement, intellectual functioning and adaptive behavior in an adult prison population should be undertaken.

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APPENDIX

Lehigh University

Institute for Research and Development in Education

524 Brodhead Avenue
Bethlehem, Pennsylvania 18015
telephone (215) 861-3249

Dear Participant:

You are one of eleven hundred participants, selected at random, by the computer to take part in a national research study by Lehigh University. The aim of the study is to determine the educational needs of people in the nation's prisons so that programs to help meet those needs can be designed. All participants in the research project will be asked to take two tests:

* The Test of Adult Basic Education
* The Wechsler Adult Intelligence Scale

Some of the participants will be asked to take two additional tests:

* The Mann-Suiter Learning Disabilities Screening Test
* The AAMD Adaptive Behavior Scale

Each person selected for the study will be given an identification number so that his or her identity will not be able to be associated with the results of the tests by the prison staff. All information gathered will be reported anonymously and confidentiality will be guaranteed.

We regret that no money is available to pay you for participation in this important national research project.

We thank you for your cooperation and ask you to sign the form below.

Sincerely,

Dr. Raymond Bell
Director

Permission Form for Participants

I agree to participate in the research project described above and give my permission for the use of the test results for research purposes. I understand that no information gained from these tests will be given in a way which can be associated with me nor will any information be put on my record.

(Participant's Name) Signed _____

NATIONAL INSTITUTE OF JUSTICE RESEARCH REPORT

Lehigh University
Bethlehem, PA

Adaptive Behavior Assessment Instrument

Description

The attached Adaptive Behavior Assessment Instrument was designed for use in Lehigh University's research project on the prevalence and nature of learning deficiencies among inmates in state correctional institutions in the United States. The purpose of the instrument is to corroborate the results of the Wechsler Adult Intelligence Scale - Revised when there is evidence of possible retardation. The skill areas assessed were taken from the first part of the AAMD Adaptive Behavior Scale - Institutional Version.

Directions

The first page of the instrument was designed for the use of examiners who have not had consistent contact with the individual being assessed. It consists of a structured interview and a short task for the client to perform. If the examiner does not know the client, all questions shou'd be asked before completing the checklist of skills on the second page of the instrument. If the examiner has daily or frequent contact with the client, the interview and task need not be conducted.

The second page of the instrument consists of a checklist of seven skill areas to be assessed. Before circling a number corresponding with a given skill area, the examiner should refer to the "Guidelines and Definitions" on pages 3, 4, and 5 of the instrument. Careful attention should be paid to the examples of the extreme ratings for each skill area.

Name _____

Institution _____

Examiner _____

ADAPTIVE BEHAVIOR ASSESSMENT

INTERVIEW QUESTIONS

1. Where were you living before you came to the institution?
2. Were you living by yourself or with others?
3. Did you eat most of your meals at home or elsewhere?
4. Did you cook any meals yourself?
5. Did you have a job?
6. What type of work did you do?
7. How did you get to work or other places you needed to go?
8. Have you ever been a member of a club or organization?
9. Do you enjoy taking part in group activities or sports?
10. Do you or did you ever have a driver's license?
11. What do you enjoy doing in your free time?
12. When you are in a group, do you like to be in charge?

TASK

Would you please write a short letter or paragraph for me? It can be about anything you want. (If more prompting is needed, suggest a letter of application for a job or a paragraph about something you enjoy doing.)

Name _____

Institution _____

Examiner _____

ADAPTIVE BEHAVIOR ASSESSMENT

CHECKLIST OF SKILLS

Directions: Indicate the extent to which the individual appears to have problems in each of the following areas by circling the appropriate number. Refer to the "Guidelines and Definitions" on the following pages for the specifics of each area.

	PROBLEMS INDICATED				
	NONE		MILD		SEVERE
1. Independent functioning	1	2	3	4	5
2. Physical development	1	2	3	4	5
3. Writing skills	1	2	3	4	5
4. Verbal skills	1	2	3	4	5
5. Self-direction	1	2	3	4	5
6. Responsibility	1	2	3	4	5
7. Socialization skills	1	2	3	4	5

ADAPTIVE BEHAVIOR ASSESSMENT

GUIDELINES AND DEFINITIONS

1. Independent Functioning includes basic self care skills such as eating meals, cleanliness and personal hygiene, general appearance, and the ability to perform basic tasks. It relates to the individual's capacity to care for his or her own basic needs.

NO PROBLEMS: Implies that the individual could live independently with no difficulty.

SEVERE PROBLEMS: Suggests that independent living would be an impossibility.

2. Physical Development refers to the individual's sensory acuity, sense of balance, ability to walk and run, manual dexterity, and general limb functioning.

NO PROBLEMS: Indicates that the individual is well coordinated and has no sensory or motor problems which impede normal functioning.

SEVERE PROBLEMS: Suggests that the individual is so physically handicapped that it interferes with his or her mobility to the extent that assistance is always or almost always needed.

3. Writing Skills assess an individual's ability to verbally express him or herself in writing.

NO PROBLEMS: Indicates that he or she can write sensible and understandable letters to someone.

SEVERE PROBLEMS: Reflect a total inability to write or print any words.

4. Verbal Skills include the individual's ability to articulate, to speak in complete sentences, and to use descriptive words and phrases.

NO PROBLEMS: Suggest that he or she can communicate effectively using complex sentences and action words.

SEVERE PROBLEMS: Indicate that the individual is non-verbal or nearly non-verbal.

5. Self-Direction includes an individual's ability to take initiative, to persevere in activities or tasks, and to effectively utilize leisure time.

NO PROBLEMS: Indicates that the individual is self-directed when appropriate, has an attention span which is sufficient for normal functioning, and uses leisure time creatively.

SEVERE PROBLEMS: Suggests that the individual is not capable of initiating activities, attending to projects, or planning leisure time activities.

6. Responsibility refers to an individual's degree of dependability and conscientiousness.

NO PROBLEMS: Indicates that the individual is reliable and assumes responsibility when appropriate.

SEVERE PROBLEMS: Indicates that the individual is totally unreliable and never carries out responsibility of any kind.

7. Socialization Skills include cooperation, consideration, awareness of others, and social maturity.

NO PROBLEMS: Suggests that the individual interacts appropriately and freely with others and is able to participate easily in group activities.

SEVERE PROBLEMS: Indicates that the individual is basically unable to respond to others in a socially acceptable manner.

INTERVIEW FORM

Name _____ Code # ____

1. Language spoken at home:

   1. English ☐
   2. Spanish ☐
   3. (other) ☐

2. Educational History grade/level

Elementary	☐	_____
Secondary	☐	_____
Post Secondary	☐	_____
Vocational Training	☐	_____
Other	☐	_____
Certificates (eg. BA, GED, etc.)	☐	_____

3. Ever adjudicated delinquent Yes__ No__

4. Ever in a juvenile institution Yes__ No__

LEARNING DEFICIENCIES PROJECT
DATA COLLECTION FORM

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	prison record	self report
	P.R.	S.R.

1. Today's date:

2. I D # Lehigh ☐☐☐☐☐

3. Inst. # ☐☐☐☐☐

4. Birth date ☐☐/☐☐/☐☐

5. Date of summary report or date of information: _____ 1 2

A. PERSONAL INFORMATION

1. Ethnic Background

Afro-American	1	
Caucasian	2	
Hispanic-American	3	
Mexican-American	4	
Native American	5	
Asian	6	
Other	7	1 2

2. Primary Language Spoken in Home (Psychologist answers)

English	1	
Spanish	2	
Other	3	1 2

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	P.R.	S.R.
	2.	

3. Primary source of income prior to incarceration (circle no more than 2)

a. Occupational Title: _____

1.	Managerial & Professional Specialty Occupations	1
2.	Technical, Sales, & Ad. Support Occupations	2
3.	Service Occupations	3
4.	Farming, Forestry & Fishing Occupations	4
5.	Precision Production, Craft & Repair Occupations	5
6.	Operators, Fabricators & Laborers (machine operators	6
7.	Transportation & Material Moving Occupations	7
8.	Handlers, Equipment Cleaners, Helpers, & Laborers	8
9.	Occupation not Reported	9
10.	Never employed	10
11.	Occasional jobs (use to describe inconsistent or intermittent employment or odd jobs)	11

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4. Pertinent medical information (Specify particular difficulties) eg. diabetes, seizures, etc.

P - general physical condition
U - upper body
L - lower body
H - hearing
E - eyes
S - stability
T - teeth

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B. SENTENCE DATA

1. Effective date of sentence _____

P.R.	S.R.
1	2
1	2
1	2

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2. Crime committed	present offense	length min.-max	juvenile	length	adult	length	P.R.	S.R.
							3.	
arson	01		02		03		1	2
assault								
aggravated A & B	04		05		06		1	2
A W/I to murde	07		08		09		1	2
A by prisoner	10		11		12		1	2
blackmail	13		14		15		1	2
bribery	16		17		18		1	2
burglary	19		20		21		1	2
conspiracy	22		23		24		1	2
drug offenses	25		26		27		1	2
embezzlement	28		29		30		1	2
entry, unlawful	31		32		33		1	2
forgery	34		35		36		1	2
fraud	37		38		39		1	2
kidnapping	40		41		42		1	2
larceny	43		44		45		1	2
liquor law violations	46		47		48			
manslaughter, involuntary	49		50		51		1	2
manslaughter, voluntary	52		53		54		1	2
motor vehicle code violations	55		56		57		1	2

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	present offense	length min.-max	juvenile	length	past adult	length	P.R.	S. R.
murder								
first degree	58		59		60		1	2
second degree	61		62		63		1	2
third degree	64		65		66		1	2
possession of instruments of crime	67		68		69		1	2
prison breach								
escape from prison furlough	70		71		72		1	2
parole violation	73		74		75		1	2
prostitution	76		77		78		1	2
rape								
forcible	79		80		81		1	2
statutory	82		83		84		1	2
receiving stolen property	85		86		87		1	2
robbery	88		89		90		1	2
sex offenses	91		92		93		1	2
sexual intercourse, deviate	94		95		96		1	2
trespass, criminal	97		98		99		1	2
weapons	100		101		102		1	2
3. all other offenses (specify)							1	2
4. plea bargaining	yes		no				1	2

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P.R.	S.R.

C. EDUCATIONAL INFORMATION

		Date	Name of Test	Scores	
1. Intelligence Rating	past				
	present				
2. Achievement Testing	past				1 2
	present				

3. Grades completed _____ 1 2

4. Grades repeated _____ 1 2

5. Total years of formal ed. _____ 1 2

6. School Placement

	Regular	Special	
Elementary			
Secondary			1 2

7. Age entered _____

Age left _____ 1 2

8. Special Diagnoses (Specify diagnosis & where it was made)	Was individual ever evaluated? yes	no	
Public school			
Private school			
Prior institutionalization juvenile			
Prior institutionalization adult			
Current diagnosis			1 2

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6.

	P.R.	S.R.
9. Participation in academic, vocational or other programs	32164	

	Currently institutional programs	Previously Institutional	Previously public or private
ABE			
GED			
Voc.			
Post Secondary			
Bureau of vocational rehab. (BVR)			
Other			
never enrolled			

	P.R.	S.R.
never enrolled	1	2

10. Degrees/Certificates Obtained	Currently institutional programs	Previously Institutional	Previously public or private	P.R.	S.R.
a. Trade school cert.				1	2
b. H.S. Diploma				1	2
regular				1	2
GED				1	2
c. College degrees					
AA				1	2
BA/BS				1	2
MA/MS				1	2
PhD				1	2
d. Professional cert.				1	2
e. Other				1	2

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7.

P.R.	S.R.

D. BACKGROUND HISTORY (may check several)

1. family

intact family	_____	foster home	_____
broken home	_____	group home	_____
one parent - mother	_____	institution	_____
one parent - father	_____	adoptive home	_____
other relatives	_____	family friends	_____
		other (specify)	_____

eg. remarried, paramours, common law marriage

2 Developmental

birth order _____

prenatal status _____

birth condition _____

defects _____

Problems

abused _____

run away _____

suicide attempts _____

drug involvement _____

1 2

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E. LEGAL HISTORY AND OFFENSE PATTERN

Adult	Age of First	Total No.		Number of Offenses				See Official Arrest Record for Further Details
Arrests			Violent	Property	Health Safety Morals	State	Misc.	
Convictions								
Incarcerations								

Juvenile Pattern

Analysis

1 2

Adjudicated delinquent: yes _____ no _____

1 2