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SOCIO-ECONOMIC BIAS IN THE DIAGNOSIS OF MENTAL RETARDATION

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1971

SOCIO-ECONOMIC BIAS IN THE DIAGNOSIS OF MENTAL RETARDATION

APPROVED BY

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SOCIO-ECONOMIC BIAS IN THE DIAGNOSIS OF MENTAL RETARDATION

CHAPTER I

PROBLEM

Increasing national concern for the poor, undereducated members of our society has been accompanied by increased attention to psychological treatment of this group. The lower socio-economic class has been assessed in a variety of institutions, including state hospitals, mental hygiene clinics and community health centers (Levy, 1970).

At least two diagnostic trends have been observed. First, lower socio-economic classes are diagnosed as having a higher rate of mental illness (Clark, 1949; Frumkin, 1955; Hollingshead and Redlich, 1954, 1955, 1958; Stevens, 1954). Second, different diagnostic labels have been given to similar patients, depending upon their socio-economic status, i.e., the lower the socio-economic level of the patient, the more pathology and/or the poorer is the prognosis as judged by the clinician. This bias has been supported in research using interview data (Lee, 1968), as well as projective testing (Haase, 1956; Levy, 1969).

The field of intellectual assessment contains some interesting parallels. Since Decroly and Degard (1910) discovered

that children from more favored economic groups made scores higher than Binet's norms, there have been numerous studies reporting on the relationship between socio-economic status and intelligence (Tyler, 1965). The most important of these studies have been comprehensively reviewed elsewhere (Lovinger, 1940; Neff, 1938; Stoke and Lehman, 1930; Tyler, 1956, 1965). All point to the same general conclusion: in different countries, and with different measures of social class or economic status, there is a direct relationship between assessed intelligence and socio-economic status (SES). Tyler (1965) states that the nature of this relationship is one of the best documented facts in mental test history. Despite numerous investigations which have been carried out relating SES to intelligence, there have been few studies specifically concerned with the SES of mentally retarded groups. Current workers in the field (Harper, 1962; Heber, 1970; Kushlick, 1966; Jensen, 1970) have concluded that mild or borderline retardation (IQ range approximately 50 to 85) is concentrated in lower socio-economic groups, whereas more severe forms, usually traceable to organic or genetic defects, are distributed throughout the entire socio-economic scale.

All of the above researchers based their conclusions upon survey research. There have been no studies dealing with the possibility of diagnostician bias operating to the detriment of lower social classes. Only one study (Stein and Sussar, 1963) approached the problem noting that teachers might tend to make an overabundance of clinic referrals of youngsters from lower social

classes as possible retardates.

Purpose of Study

The major purpose of this study is to explore the possible operation of diagnostic bias by the clinician as a function of his implicit assumption of IQ-socio-economic status relationships. This study deals with the problem through an experimental research design, presenting clinicians with case materials, which are identical except for systematic variation of information relating to various levels of socio-economic status.

While all previous research correlating SES and mental retardation equated retardation as measured by an IQ score with functional retardation, data given to the clinicians in this study contain family background information and behavioral observations, as well as psychometric test results. This approach follows vigorous arguments against classifying an individual as mentally retarded solely on the basis of an IQ score (Heber, 1961; Sarason and Doris, 1969). In this study clinicians were presented with a picture of a youngster which included aspects of adaptive behavior and social competence, approximating more nearly the information he would usually have available in actual clinical settings.

Hypotheses

Several studies show that the lower socio-economic levels of our society are significantly over-represented in the population of the mild retardation group, which is estimated to constitute 80-90 percent of the total population of mental retardates (Heber,

1970). While it is possible that there is a greater incidence of mental retardation among members of lower socio-economic classes, it is also possible that lower class members are subject to a diagnostic bias.

The hypotheses investigated in this study were:

Hypothesis 1. The socio-economic status (SES) of a client is independent of the probability of his being classified as mentally retarded by clinicians (psychologists at the guidance centers in the State of Oklahoma).

Hypothesis 2. Among the cases used in this study, which are typical of referrals to the guidance centers in the State of Oklahoma, each one will be assigned the same probability of being classified as mental retardation as any other case.

Hypothesis 3. The different cases and the socio-economic status (SES) of the client do not interact such that certain combinations of SES and cases would tend to be labelled as mental retardation more frequently than others.

Hypothesis 4. There will be no significant difference between clinicians of "high" experience (three years or more) and "low" experience (less than three years) with respect to the probability of a diagnosis of mental retardation.

Hypothesis 5. Treatment recommendations are not significantly related to the socio-economic status of the client.

Hypothesis 6. Educational placement recommendations are not significantly related to the socio-economic status (SES) of the client.

Definition of Terms

Various terms have been used to classify a youngster as borderline, mildly, moderately, or severely mentally retarded. Some of this nomenclature is the result of historical developments in intellectual assessment, and some is the result of national preference (Harper, 1962). To facilitate the comparison of studies reported in the review of the literature in this study, the various terms have been defined as follows (Harper, 1962; Penrose, 1949):

Borderline Mental Retardation.	IQ approximately 70-84
Mild Mental Retardation. Moron (old American usage). Feeble-minded (British usage).	IQ approximately 50-69
Moderate Mental Retardation. Imbecile (old American usage, and British usage).	IQ approximately 20-49
Severe Mental Retardation. Idiot (old American usage, and British usage).	IQ approximately 0-19

Educable Mentally Retarded. Capable of some degree of achievement in traditional academic subjects and able to maintain themselves independently in the community as adults; this group of mentally retarded includes those obtaining IQ scores between 50 and 80 (Heber, 1961).

Trainable Mentally Retarded. Disabilities are such that they are incapable of meaningful achievement in traditional academic subjects but are capable of profiting from programs of training in self-care, social, and simple job or vocational skills;

this group of mentally retarded includes those obtaining IQ scores from 25 to 50 (Heber, 1961).

The terms; Mentally Defective, Mentally Deficient, Mentally Handicapped, and Intellectually Sub-normal are used interchangeably to designate a youngster who places on the intelligence test part of the criterion for retardation at least one standard deviation (IQ $\leq$ 85) below the mean. This is the cut off point as established by the American Association on Mental Deficiency (Heber, 1961). Feeble-mindedness, except in the context of British studies where the term is synonymous with the mild level of mental retardation, is used interchangeably with the generic term, Mental Retardation.

Limitations of This Study

The clinician "subject" sample in this study is composed of guidance center psychologists in the State of Oklahoma. They are not purported to be representative of clinicians at community guidance or mental health centers throughout the country, or of clinicians in private practice.

CHAPTER II

REVIEW OF THE LITERATURE

This review of the literature will be limited to studies which focus upon the relationships between intellectually sub-normal children and various socio-economic indices of their families. These studies span a period of over fifty years. The majority utilized institutionalized populations. Only more recently have investigators been concerned with community populations.

The earliest studies concerning the belief that an inverse relationship exists between socio-economic status of families and the intelligence of the sub-normal population are those of Schmitt (1918), Ordahl (1919) and Richardson (1923).

Using a translation of Binet's 1910 scale, Schmitt tested one hundred children, aged 4 to 16, in two Würzburg orphanages. Although all of the children originally came from poor environments, their test scores were examined in terms of those youngsters who had come from better or poorer "moral environments," those whose fathers had been industrial workers as opposed to peasants, and in terms of the length of time the youngsters had been institutionalized. Although a slight general advantage in measured intelligence was found in favor of those youngsters coming from

poorer material surroundings, there was no significant difference between the proportion of mental retardates across SES groups.

Ordahl (1919) gathered social status data on the families of 50 children at the Vineland Training School. He concluded that about 72 percent of the children came from families of "inferior social standing," 26 percent from "average" homes, and 1 percent from "superior" homes. Bradway (1935), in examining the Ordahl data, determined that about only 1 percent of the idiots came from homes of inferior social status, as compared with 68 percent of the imbeciles and 86 percent of the morons.

Richardson (1923) reported on the occupation of parents of 100 mentally retarded children in special classes in New Jersey. However, he included no quantitative data. Bradway, applying the Minnesota Occupational Intelligence Scale to Richardson's data, concluded that fathers of more than 50 percent of the children were employed in semi-skilled and unskilled occupations, and only 3 percent came from families in which the fathers were of the professional or business category, as compared with 32 percent and 11 percent respectively in a random sample of males of a large mid-western city.

In these early studies, the samples were small, the socio-economic levels were not necessarily made on an objective basis, and there is no evidence leading to the conclusion that the samples are in any way representative of the sub-normal population. Except for Bradway's analysis of the Ordahl data, no attempt was made to differentiate degrees of retardation among the subjects.

Patterson and Rundquist (1933) attempted a more sophisticated investigation by analyzing the father's occupational background for all (N = 1239) of the patients and applicants for admission to the Minnesota School for the Feeble-minded at Fairbault. They found that only 12.6 percent of the patients and 9.3 percent of the applicants came from families engaged in the upper three occupational levels as assessed by the Minnesota Rating Scale for Occupational Intelligence, whereas 41 percent of a random sample of Minneapolis residents belonged to these occupational levels. A reported 87.4 percent of the fathers of patients and applicants came from the three lower occupational levels, in contrast to only 59 percent of the random sample of families coming from these occupational levels. The authors concluded that over 50 percent of the fathers of the institutionalized cases and those waiting for admission were semi-skilled or unskilled, whereas slightly less than one-third of the random sample were primarily employed in these categories.

According to Patterson and Rundquist's (1933) data, the upper occupational classes contributed a relatively small number of cases in comparison to their numerical strength in the general population. The data also showed that over 75 percent of the admissions with IQ's above 60 came from fathers who were semi-skilled or unskilled. The same tendency was ascertained for those with IQ's between 41 and 60 although to a lesser extent. At the other end of the IQ scale the reverse was found. Those with IQ's of 40 or under had fathers who conformed more closely to a random sample

of the adult male population.

Their basic conclusion was that the relationship between degree of retardation and occupational level was due to the fact that severe and moderate cases were due primarily to accidental, pathological, and non-hereditary factors which would be distributed more or less at random among the various classes of society, whereas mild degrees of retardation were transmitted by biological heredity and found more often at the lower occupational levels.

Bradway (1935) tested this hypothesis in a partial replication of the Patterson and Rundquist study. Analyzing their conclusions, Bradway reasoned that IQ's for primary cases, those with no identifiable post-natal causes, would all be fairly high and those cases with secondary causes would be uniformly low, with no IQ trend either up or down in variation with occupational class for either group, when considered separately. She found a negative relationship between both the total group of feeble-minded and for primary and secondary cases considered separately.

This lack of confirmation of the Patterson and Rundquist hypothesis might partially be due to social class differences among the populations making use of the state institution utilized in the Patterson and Rundquist survey and those using the private institution which Bradway used for her study. Although wards of the state comprised two-thirds of the patients, mostly coming from the lower social classes, the higher occupational groups did provide a much greater proportion of the patients at Vineland (41 percent) versus 12 percent at the state institution. This was true

even though there were five times as many patients classified in the lower occupational groups at the private institution as there were adults in a random sample of an adult population. Even so, in computing the Pearson Coefficient of mean square contingency for IQ level of child and occupational class of parents, Bradway obtained a $C = -.40$. This compares favorably ($C = -.37$) to her computations based on the Patterson and Rundquist data. Both coefficients indicate that there is a tendency for the fathers of children who are most severely retarded to be occupied in positions requiring the most intelligence. Although Bradway found (as did Patterson and Rundquist) that there was more of a tendency for lower occupational groups to provide mildly mentally retarded children, her data also demonstrates that the higher occupational levels did not supply the only mental retardates at the lower end of the scale. Rather, the higher occupational groups contained a more even distribution.

Penrose (1938) analyzed the distribution of mentally retarded at the Royal Eastern Counties' Institution, Colchester, England, according to mental grade and occupation of father. He arranged the occupations of fathers as follows: Professional, minor professional, clerical, skilled labor, and unskilled labor. He found that the technical occupations (professional through clerical) contributed more patients of the imbecile and idiot grade than of the mild and borderline level. The unskilled group and those fathers whose occupations were unknown, usually because the child was illegitimate, contributed more mild and borderline

retardates than of imbeciles and idiots.

As part of the Colchester Survey, the homes of 1013 patients were visited and rated by social workers on various socio-economic indices. Penrose further noted that if feeble-minded (mild retardates) and borderline patients were separated from idiots and imbeciles, home conditions in the first group were, on the average, subnormal, and in the second or low-grade group, they were distributed similarly to the general population.

In another institutional study, Halpern (1945) examined socio-economic status data and intelligence quotients on 259 consecutive admissions to state institutions of the feeble-minded from northern Ohio from June, 1939 to June, 1941. He noted the same tendencies that were found in earlier studies, idiots and imbeciles come from average and above average homes, while morons tended to come from inferior homes. SES criteria used included family income, occupation of father, size and appearance of the home, cultural status, e.g., facilities for the children, and education of the parents.

Conacher (1969) attempted a prevalence study dealing with mental retardation and socio-economic status in Angus County, Scotland. It was a slight extension of the typical institutional studies, as he included hospital out-patients as part of his population. He concluded that the percentages of the severely retarded with IQ's less than 50, followed "closely the distribution of the socio-economic groups in the county (p. 970)." But like other researchers, he discovered that "the percentages of mildly

retarded patients come to a peak in families with the father in a semi-skilled and unskilled occupation (p. 971)." He felt his data was biased because the hospital population tends to be of a type where there is to be a concentration of cases of moderate and severe levels of retardation.

As a result of all of these studies, there is an apparent contradiction to findings of a positive relationship between the intelligence of a child and parental socio-economic status. Based on institutional surveys it appears that, when considering mental retardates, there is an inverse relationship between the severity of mental retardation and a parent's socio-economic status. Specifically, the high socio-economic status groups supply more of the severe than mild retardates, while the lower socio-economic status groups furnish more cases of mild retardation than severe.

There is no way of knowing how much of the data is confounded by variables irrelevant to the relationships found in these studies. For example, Bradway (1935) noted that families of higher educational levels might succeed in getting children with IQ's of less than 35 into the institution more easily than families of lower occupational levels, "either by sending the child as a private case or through the usual channels of economic influence. Furthermore, families of upper occupational strata are more likely to keep the higher type of feeble-minded child (mild retardate) in the home and, because of home supervision, state institutional care is unnecessary, while the higher type of feeble-minded child of low socio-economic status is more frequently institutionalized by

the state (p. 539)."

Penrose (1949) offered a similar explanation for the inverse relationship found between child's level of retardation and the SES of the family. He hypothesized:

In the homes of higher income groups the borderline and high grade (mild retardate) cases can more easily be given the kind of training and education they need to prevent their becoming social problems, and they are not likely to require public assistance. The institutional training of idiots, on the other hand, is of great social advantage to the families in which they occur and is sought after more in the higher than in the lower occupational classes. Formerly the poorer social groups had to rely on charity for training of their low-grade (moderate and severe retardate) cases, while the more comfortably situated could afford it almost as a luxury (Penrose, 1949, pp. 39-40).

Only a small proportion of the estimated total retarded population ever receive institutional care. Harper (1962) noted that about three percent of the population is the figure used by most professional writers, which would give about 5 million retarded persons in the United States as of 1960. According to Harper, this number represents those who have been or will be considered as retarded at some time during their lives. The total was expected to be more than 6.5 million by 1970, at least half of whom would be under 21 years of age.

As Benda, Squires, Ognik and Wise (1953) observed, of these approximately 5 million individuals who could be classified as mild mental retardates, only one percent were instate or residential schools, the remaining 99 percent residing in the community.

Benda, et. al., attempted to determine what factors forced this group, consisting of 20 percent of the institutional population, to be separated from the community. They studied the backgrounds of the families of a representative sample of institutionalized mentally retarded children with IQs over 50, with no clear cut neurological symptoms, and with mental retardation not attributable to extrinsic, biologically defined factors. As would be expected, based upon previous studies, many of the families came from lower social and economic classes. Almost 75 percent of this group came from either broken and/or homes that did not provide basic amounts of food, clothing, shelter, and protection from danger. Sixty percent of the families were periodically receiving public assistance, and there was social pathology in approximately 50 percent of the families as evidenced by legal action or protective agency intervention concerning the family. Grossly inadequate home conditions appeared to be the most critical factor predisposing to admission to an institution. This is similar to Conacher's (1968) findings that 73 percent of the mild retardation group in his institutional study had been referred or admitted on account of illness or behavioral difficulties or because of loss of home or disinterest of relatives. Only 27 percent had been referred because of backwardness in school or occupation.

These findings lend credence to the comments of both Bradway (1935) and Penrose (1949), that the occurrence of many mildly mentally retarded patients in institutions may be the result of SES, among other variables. Obviously the one percent of

the mild retardate population that is institutionalized do not represent a random sample of mild mental retardates, but seem to be drawn from a "minority" of families who represent a combination of low economic and low socialization patterns.

Greene and Cushna (1965) studied the socio-economic status of parents of 538 children evaluated for mental retardation at a mid-western child development clinic. They found that in the clinic population SES was not related significantly to mental retardation. They offered no breakdown in terms of level of retardation, other than to state that the mean IQ of the study population was 72.7.

In another study at the same clinic, Solomons, Cushna and Opitz (1966) examined the records of 1255 children seen for initial diagnostic evaluation over a three year period. The authors felt that the clinic population was a representative one since it acted in a diagnostic capacity, evaluating children for all socio-economic classes in its area who were achieving below the levels of their age expectations.

The purpose of Solomons, et. al., "was to investigate the possibility of significant SES differences between the families of educable and trainable children (p. 208)." They suggested that more children in the educable category would come from low socio-economic status levels than children in the trainable group. This proved to be the case beyond the .05 level of significance.

Wakefield (1964) surveyed the population of school children in the Los Angeles and Santa Monica, California, school

districts who were in elementary classes for the educable mentally retarded. The investigation tested four null hypotheses: "parents of educable mentally retarded public school children are a cross section of the total population in (a) tested intelligence, (b) level of schooling (c) level of family income, and (d) cost of family housing (p. 43)." All four null hypotheses were rejected at the .01 level of significance.

Wakefield pointed out that the sample appeared somewhat biased toward low socio-economic areas. In Los Angeles the incomes of ninety-eight percent of the families sampled were from areas where the family income averaged less than \$6,000 per year. In Santa Monica the whole elementary school educable mentally retarded population was included. Although Santa Monica is considered to be a typical American community, the proportion of lower income families was eighty five percent. Also, no children in private schools or institutions were included in the study.

Stein and Sussar (1963) investigated the incidence of mild mental retardation among public school children of Salford and Manchester, England, over a three year period. They found an incidence of 21.4 pupils per thousand in schools of low social standing; 15.24 pupils per thousand in schools of low average social standing; 14.15 pupils per thousand in schools of high average social standing and 2.55 pupils per thousand in schools of high social standing. The authors noted that differences in referral rates from schools of various social standing were significant at the $p < .01$ level. They investigated two sources of possible bias

which might cause data to reflect increased incidence of mild mental retardation as the social standings of the schools decreased:

(a) They made a survey of private schools. No children who had been tested in private schools had a reported IQ of less than 90 "and among those who had not been tested none were more than one class behind the average child of the same age (p. 815)." The authors also note that referral cases might not have been representative of all public school children if teachers had selected children for referral from particular social classes. Thus, dull children from schools of high standing might not have been referred.

(b) The authors then turned to the group intelligence tests taken by all 11 year old children. Few low scorers appeared within the total population of schools of high standing. Only 0.9 percent of 694 examinees of high standing scored 50-79 whereas 10 percent from schools of low standing scored in this range. The authors concluded that the screening process and the distribution of low IQ scores showed that there were very few children from schools of high social standing who were functioning at a sub-normal educational level. By contrast, sub-normal children were commonly found in schools of the lowest social standing. However, the authors warned that confirmation through more intensive investigation of large and defined populations would be needed.

Drillien (1961) examined the distribution of levels of mental retardation among premature children born in Edinburgh Hospital between 1948 and 1956, and varying in age from 5 years to 11½ years. The data showed that as the mother's socio-economic

status decreased, the proportion of children with average intelligence also decreased and the proportion of dull, handicapped or grossly defective children increased. However, the percentage of mild retardates was approximately equal in the high, middle, and low working classes, while the percentage of severe retardates was actually greatest in the lowest of the three economic groups. Thus, Drillien's data, although limited to children of premature births, appear to contradict the hypothesis that grossly defective children are evenly distributed in the population, while mild defectives are found more often in low SES groups.

Warnings of possible abuses of the apparent findings of an inverse relationship of SES and intelligence were sounded by Stoke and Lehman (1930). They claimed that what started with true findings that the professional and large-scale business groups earn better average scores on the various intelligence tests than do lower social groups, and that these upper groups exceed their quotas of superior individuals, had grown into the myth that the majority of gifted persons are to be found in the professional and major business groups.

McGee and Lewis (1942) acknowledged this criticism in their study on SES of the homes of mentally superior and retarded children. The authors underscore the position that investigators should emphasize negative as well as affirmative evidence of relationship between intelligence and social status.

McGee and Lewis drew their subjects from a sample of approximately 45,000 children in grades four through eight in 455

schools, in 310 communities, and 36 states. They compared children with respect to SES of their families who, on the basis of Kuhlmann-Anderson tests scores, could be diagnosed as mentally superior or mentally retarded. Mentally superior children were those children who scored in the upper 10 percent of the subject population. The mentally retarded group were those children scoring in the lowest 10 percent of the population. SES and intelligence score data also were gathered at random from the rest of the subject population, which was assumed to represent the "average children" in the study. Their data does substantiate the position that a positive relationship exists between SES factors and a child's intelligence. However, it is emphasized that superior and retarded children are found at all occupational levels. Further, in the skilled labor class, which contributes over one-third of the children to all three groups (superior, average, and retarded), the differences between percentages of children in each of the groups were small. Between the average and retarded group, the difference was not statistically significant. The semi-professional and business, skilled labor, semi-skilled and slightly skilled labor classes, i.e., the "middle class" furnished approximately 84 percent of all the superior subjects and approximately two-thirds of the retarded group.

Nevertheless, despite the numerous statistical anomalies and the possibilities of sampling biases that have been previously discussed, the broad generalization in the current literature (Jensen, 1970) is that mild mental retardation in children is confined to the lower socio-economic classes.

CHAPTER III

METHOD

Subjects

Psychologists at 25 of the 26 guidance centers in the State of Oklahoma participated in this study. The guidance center where the researcher is employed was excluded from the sample. A memorandum was sent to each of the psychologists from the Program Director of the Oklahoma State Health Department, Division of Child and Maternal care, asking for their cooperation in serving as subjects in a Doctoral candidate's dissertation research. Of a possible total of 36 psychologists, 31 actually participated. Three who did not participate act as part-time consultants to various guidance centers, giving as little as one day a month service. Therefore the sample can be considered representative of the psychologists of the State guidance center system.

Materials

Cover letter: A cover letter (Appendix I) was sent to each psychologist, describing the research as investigating the amount of time involved in making diagnostic decisions. Subsequent to the collection of the data, a check was made with one-third of the subjects, seeking their opinion about the nature of

the experiment. All respondents claimed that they felt that the purpose was that explained in the cover letter.

Case Studies: Three different cases (Appendix II) were developed from actual cases typical of those referred to the guidance center system. The format and information were somewhat standardized, in an effort to ease the subjects' task. In addition to relevant information which included psychometric and projective testing results, aspects of adaptive behavior and social competence, there was a systematic variation of identical high, middle, and low socio-economic status information (Appendix III) among each of the three cases. A pilot study was conducted utilizing 48 students in two graduate psychology classes in an effort to determine if the socio-economic status information discriminated among the three classes. Significance was found at the $p < .001$ level. The socio-economic status information contained in each case study can be assumed to have both face validity and consensual validity with regard to low, middle, and high socio-economic status level.

Data Sheet: A data sheet (Appendix IV) was attached to each case study. It contained five sections. Section one required the subject to enter his name, years of clinical experience, and his civil service rank as psychologist. The second section asked the subject to make judgments as to the percent of probability that the "client" was mentally retarded, emotionally disturbed, and had organic involvement; each choice was to be made independently. Part three asked each subject's recommendation regarding the

advisability of psychotherapy for the "client." Part four asked the subject to rank order recommendations for class placement. The fifth part asked the subject to enter the time it took him to study the case and reach his diagnostic and treatment recommendations. The subjects noted the time it took them to evaluate each case, but use was not made of this information in the formal statistical analyses. The time spent tended to be in proportion to the amount of information supplied to the clinicians.

Procedure

Each subject was required to give a diagnostic decision, treatment, and class placement recommendation on each of the three cases, each case being of a different level of socio-economic status. There were six possible combination groups of cases and socio-economic status level (Table 1). Each of the 36 subjects were randomly assigned to one of the six combination groups: The order in which the subject was presented with the three cases was systematically varied. The cover letter, and the three cases with a data sheet attached to each were mailed to each subject. The subjects were requested to return their completed data sheets by mail.

Statistical Analysis

Since each of the thirty six subjects were to judge three cases, there were to be a total of 108 judgments, or a total of twelve independent decisions for each case and each level of socio-economic status (Table 2). However five subjects did not respond,

Table 1
Combination Groups of Cases and Socio-Economic Status

Case	Socio-Economic Status	Case	Socio-Economic Status
1. Jane S. Tom J. Billy C.	Low Middle High	4. Billy C Jane S. Tom J.	Low Middle High
2. Billy C. Tom J. Jane S.	Low Middle High	5. Tom J. Jane S. Billy C.	Low Middle High
3. Tom J. Billy C. Jane S.	Low Middle High	6. Jane S. Billy C. Tom J.	Low Middle High

Table 2

Number of Case Decisions by Socio-Economic Status Level

Socio- Economic Status	Case					
	Jane S		Billy C.		Tom J.	
	Possible	Actual	Possible	Actual	Possible	Actual
High	12	10	12	10	12	10
Middle	12	10	12	10	12	10
Low	12	10	12	10	12	10

leaving a minimum of 10 judgments for any one case - socio-economic status level combination. In order to deal with equal N's, judgments were randomly discarded so that each combination had ten judgments per cell (Table 2). A 3×3 Analysis of Variance with an N of ten in each cell was used to test hypotheses 1, 2, and 3. Hypothesis 4 was tested using an independent t test. Hypothesis 5 was tested using a 3×2 Chi Square test of independence. Hypothesis 6 was tested by Friedman's two-way Analysis of Variance for each level of socio-economic status.

CHAPTER IV

RESULTS

The major purpose of this study was to determine if a diagnosis of mental retardation in children is related to their socio-economic status. The experimental design used was a simple Latin square, with ten clinicians' ratings of probability of mental retardation in each cell. The method of analysis was that of Analysis of Variance. "Student's" independent t test was used to ascertain if treatment recommendations are related to clinician experience. Another consideration was whether educational class placement is related to the socio-economic status of the client. Friedman's two-way Analysis of Variance, one test for each of the three levels of socio-economic status, was used to analyze the data. The Chi Square test for two independent samples was used to test if a recommendation for psychotherapy is related to client socio-economic status.

The results of the Analysis of Variance are presented in Table 3. The probability of a diagnosis of mental retardation is not independent of the client's socio-economic status. Hypothesis 1 was therefore rejected ($p < .01$). Among the three cases presented to clinicians for evaluation, certain ones were diagnosed as having a higher probability of mental retardation than

Table 3

Analysis of Variance Concerning the Probability of a
 Diagnosis of Mental Retardation Based
 on the Socio-Economic Status of the
 Client and a Specific Case

Source	<u>df</u>	Variance Estimate	<u>F</u>	<u>P</u>	
Columns (cases)	2	3654.20	5.56	p	.01
Rows (SES)	2	10242.63	15.59	p	.01
Interaction	4	542.44	.83	ns	
Within cells (error)	81	657.16			

others. Hypothesis 2 was therefore rejected ($p < .01$). Probability judgments of mental retardation among the high, low, and middle socio-economic status levels of clients and the three cases presented to the clinicians, did not interact such that certain combinations of SES and cases were labelled as mental retardation more frequently than others, and therefore hypothesis 3 was not rejected.

Post-hoc comparisons of high, middle, and low socio-economic status probabilities of a diagnosis of mental retardation. Post-hoc comparisons using Scheffe's (Hays, 1963) procedure, were made to determine which level(s) of socio-economic status of the client affected his probability of being diagnosed as mentally retarded. Significant differences in favor of a diagnosis of mental retardation were found when comparisons between clients of low socio-economic status level were made to those of middle or high socio-economic status level. In each comparison, the low SES clients were more likely to be diagnosed as mentally retarded ($p < .01$). However, there was not a significant difference between clients of high versus middle socio-economic status level.

Post-hoc comparisons among the three cases presented (Billy C., Jane S., Tom J.) regarding the probability of a diagnosis of mental retardation being related to a specific case. Post-hoc pair-wise comparisons using Scheffe's (Hays, 1963) procedure, were made to determine if there was a tendency for a particular case to be classified as mental retardation. It was found that the only significant difference was that the

probability of Tom J. being mentally retarded was greater than Jane S. This difference was significant at the $p < .01$ level.

Hypothesis 4 stated that there will be no significant difference between clinicians of "high" experience (three years or more) and "low" experience (less than three years) with respect to the probability of a diagnosis of mental retardation. "Student's" independent t test was used to test this hypothesis. It was found that "low" experience clinicians are significantly less likely to assign a probability of mental retardation than clinicians of "high" experience. Hypothesis 4 was rejected at the $p < .02$ of significance ($t = 2.46$, $df = 88$).

Hypothesis 5 stated that treatment recommendations are not significantly related to the socio-economic status of the client. The Chi Square test for two independent samples was used as the test of significance. The expected and observed values for recommendations dealing with psychotherapy are presented in Table 4. A Chi Square of .3562 with 2 degrees of freedom is not significant. Hypothesis 5 was therefore not rejected.

Hypothesis 6 stated that educational placement recommendations are not significantly related to the socio-economic status (SES) of the client. Friedman's Two-Way Analysis of Variance was used to test for significance of this hypothesis. Three analyses were performed on clinician class placement ranking (educable, learning disability, or emotionally disturbed), with one analysis for each socio-economic level (high, middle, low). It was found that there was no significant difference in clinician

Table 4
 Recommendations for Psychotherapy or Not
 in Terms of the Socio-Economic
 Status of the Client

SES		Psychotherapy yes	Psychotherapy no
High	Expected	15.66	14.33
	Observed	15	15
Middle	Expected	15.66	14.33
	Observed	17	13
Low	Expected	15.66	14.33
	Observed	15	15

ranking of assignment among the three educational placements when the client is of the high or middle socio-economic status. However, there is a significant relationship between the low socio-economic status client and educational placement rankings. Clinicians ranked an educable class as first choice, a learning disability class as second choice, and an emotionally disturbed class as third choice (Figure 1). Thus, hypothesis 6 can be rejected ($p < .01$) for the low SES level only.

Sum of the ranks
of clinicians

76
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0

Rank of 1 given for first choice
Rank of 2 given for second choice
Rank of 3 given for third choice

Educable Learning disability Emotionally disturbed

Figure 1. Educational placement ranking for low socio-economic status clients.

CHAPTER V

DISCUSSION

The major purpose of this study was to explore the possible operation of diagnostic bias by the clinician as a function of an implicit assumption of IQ-socio-economic status relationships. Other areas of investigation concerned the relationship of a child's socio-economic background to educational placement and treatment recommendations, as well as the effect the length of clinical experience may have had on the probability of a diagnosis of mental retardation. The possibility that a diagnosis of mental retardation may be related to one case presentation over another was also considered. The specific hypotheses were previously stated in Chapter I.

Diagnosis and Socio-economic Status. It has long been recognized that the diagnosis of severe or moderate mental retardation is relatively simple for the experienced clinician. On the other hand, the differential diagnosis in mild or borderline cases is a complex affair, relying heavily on subjective criteria which often times are not based on supporting clinical evidence (Kraus, 1960). Analysis of the data from the present study support experimentally the presence of a subjective bias. A child from a low socio-economic status family was found more likely to

be diagnosed as mentally retarded than his counterpart from either the middle or high socio-economic levels. This finding parallels previously cited studies (Haase, 1956; Lee, 1968; Levy, 1969) which demonstrated a similar phenomenon in the area of mental illness.

Interpretations of survey research dealing with mental retardation and socio-economic factors have shed some light on the fact that the over-representation of mentally retarded children from the low social classes cannot be taken at face value. Institutionalized retardates from the lower social and economic levels, and those seen at community guidance centers, are often referred because of factors unrelated to their intellectual deficits. They are typically "acting out" children from broken homes who come to the attention of guidance personnel or the courts. The middle or upper class child who may very well suffer from similar intellectual deficits goes unnoticed. His social acclimation permits him to blend into the mainstream of society. Zigler (1966) claims that no matter what a person's IQ may be, he is unlikely to be classified as mentally retarded if he does not create problems for others in the social environment.

There is another type of distortion that may have influenced the research data. If the clinician sample of this study is representative of other researchers and clinicians in the field of mental retardation, we may assume that diagnoses in favor of mental retardation have been inadvertantly influenced by the low socio-economic status of youngsters' families. It appears

that the socio-economic level of a family acts as a powerful cue impinging upon the interaction of diagnostician and diagnosis.

There is a fairly extensive body of experimental research showing that clinicians may unintentionally effect the outcome of clinician-patient interaction (Rosenthal, 1969). The most germane studies in terms of the present issue are those dealing with intelligence tests or tasks that correlate highly with standardized intelligence test scores. Larrabee and Kleinasser (1967) found that Verbal IQ on the Wechsler Intelligence Scale for Children showed a significant ten point difference favoring children who the examiners were led to believe were "superior." Examiner expectations also showed significant differences of total of number of responses to a series of inkblots (Marwit and Marcia, 1967), as well as the proportion of human to animal responses (Masling, 1965). Both of these tasks have been shown to correlate with IQ scores (Wysocki, 1957).

A crucial factor is the unintentional aspect of these examiner expectations. Even when examiners consciously attempt to compensate for their biases or prophecies, it seems that their subjects' performances are still affected (Rosenthal and Jacobson, 1968). The identification of an aspect of diagnostician bias is obviously necessary, but not sufficient for its elimination.

Educational Placement Recommendation and Socio-Economic Status. It was found that clinicians did not exhibit a significant trend in the assignment of children from the middle or high socio-economic status families to classes for the educable,

learning disability, or for the emotionally disturbed. They did show a significant preference for assigning children from a low socio-economic background to an educable class. The research to date does not substantiate a position that a retarded youngster does any better academically or socially in such a class than if he had remained in a regular class (Guskin and Spicker, 1968; Sarason and Doris, 1969).

It has also been contended that the mildly mentally retarded child who is left in a regular class suffers from a loss in self concept because he is not able to compete successfully with his peers. Meyerowitz (1962) demonstrated that when mildly retarded children are randomly assigned to classes for the educable and regular classes, those youngsters in the special education class developed a significantly greater loss in self-concept. If these findings are valid, or if the benefits of special class placement for educable mentally retarded is questionable, such class placements become increasingly suspicious. Obviously the low socio-economic status child is being penalized twice. He is more likely to be labelled retarded than the middle or upper class child, and then stands a greater chance of being assigned to a special class which may do him more harm than good.

Treatment Recommendations and Socio-economic Class. The recommendation of psychotherapeutic intervention is an issue closely related to the question of class placement. This study which evidenced no relationship between socio-economic status and recommendations for psychotherapy, is in contrast to studies indicating

that there are a disproportionate number of psychotherapy patients both at public and private facilities, from the higher socio-economic groups (Meyer and Bean, 1968; Stevens, 1954).

At this point we can only speculate as to why the present sample of clinicians did not exhibit the same inclinations of treatment choice. It is possible that the nature of the referral question, which was directed essentially to considerations of probable mental retardation and educational placement, shifted the emphasis away from a more serious consideration of the efficacy of psychotherapy. A probable emphasis on short-term treatment trends within the State guidance center system offers another possible reason for the lack of a definitive trend. In the fiscal year, 1970, the State of Oklahoma guidance centers had 7,422 patients under care. The total number of patient interviews was 19,565 (Carpenter, 1970). This indicates that on the average, each patient was seen approximately 2.6 times. If this average number of visits is at all typical for the majority of patients, it can be assumed that the focus among the guidance centers is not one of traditional long term psychotherapy. Perhaps the treatment choice for "psychotherapy" or not, given to clinicians in this study was too limited. It did not give proper recognition to brief forms of treatment intervention which have proven to be both appropriate and effective in community mental health settings. To this extent the validity of the treatment question is of dubious value. Small (1971) points out that even Freud recognized the limitations of traditional psychoanalytic techniques in meeting

the demands he expected to be put upon the mental health community. Freud felt that it would become essential to find simpler and more direct approaches. It is now a fact that community mental health practice views crisis intervention, behavior modification techniques, and short-term family therapy as basic approaches in helping individuals and families return to more functional levels, as well as a means of avoiding more acute problems. It is not unusual to find that these are the preferred treatment modalities by community workers and therapists (MacGregor, Ritchie, Serrano, & Schuster, 1964; Small, 1971). A recent communication to all of the State of Oklahoma guidance centers (Carpenter, 1971) concerned brief family intervention techniques. It stressed the importance of concentrating on current crisis situations, in light of the fact that many families would not even be returning after the initial interview. Although deep structural changes are unlikely to come about, this does not mitigate against relief of immediate problem situations.

The Relationship of Clinician Experience and Diagnosis.

This study showed that low experience clinicians were less likely to make a diagnosis of mental retardation than high experience clinicians. This finding may be reflection of recent trends in the professional preparation of clinicians. Educational and training programs have been moving further away from a "medical" or "disease" model, which implicitly demands a rigorous diagnostic procedure, toward a humanist or existential tradition which is critical of diagnostic practices, seeing them as attempts to

objectify the patient rather than to supply knowledge or guidance which may help him. The behaviorist school is also opposed to the diagnostic practices that have grown out of the medical model, regarding them as inappropriate for gathering the type of information necessary to make use of current behavior modification practices. Katz, Cole and Lowery (1969) claim that it is a likely possibility that clinician perceptions of patients reflect shifts in contemporary trends in psychopathology.

Probability of a Diagnosis of Mental Retardation Related to a Particular Case Presentation. All three case presentations contained Full Scale IQ scores well within the range of mild retardation, and there was not more than a three point difference between any two cases. Yet of the three cases presented to clinicians, only that of Tom J. showed a significantly higher probability of a diagnosis of mental retardation, regardless of socioeconomic status level. A comparison of the information presented in each of the three case studies offers an interesting hypothesis as to why clinicians may have reacted uniquely to the case presentation of Tom J. Each of the other cases contained considerably more behavioral observation and testing information than did Tom's. It appears likely, that in the absence of other test and behavior data, clinicians put greater reliance on IQ scores and minimized the socio-economic status variable. One can only wonder whether admonitions against a strict psychometric definition of mental retardation (Sarason and Doris, 1969) lead to a double bind situation. If the clinician does not have ancillary data, the

probability may increase that the child will be labelled mentally retarded. On the other hand, it appears that inclusion of other relevant data merely increases the possibility of extraneous variables, e.g., socio-economic status of the family, clouding the diagnostic issue. No final conclusion can be reached. The ambiguity of the situation is not unlike the lack of standard diagnostic practice in the field of mental retardation as described by Clausen (1967).

Implications for Future Research. This study was limited to clinicians serving as psychologists of the State of Oklahoma guidance centers. If the findings of socio-economic status bias in diagnostic decision making is to be generalized, additional clinician populations need to be studied. These populations to be studied could be drawn from private practices, resident institutions, as well as other out-patient facilities.

One out of every four patients under eighteen years of age at the State of Oklahoma guidance centers in 1970 was classified as mentally retarded (Carpenter, 1970). It is imperative to explore ways in which clinician bias may be reduced. In the present study diagnostic assessments were made by psychologists individually. Perhaps judgments made in concert with other colleagues would prove less subject to bias. Would the inclusion of social workers, child development specialists, and even teachers mitigate the possibility of the socio-economic status of the patient biasing the diagnostic decision? This problem needs further exploration.

The variables of socio-economic status of the guidance center population, and the ethnic and social class backgrounds of the clinicians were not considered. These factors are worthy of consideration in future research dealing with clinician bias in the diagnosis of mental retardation.

It was also found that there was less probability of a diagnosis of mental retardation by low experience clinicians as compared to those of high experience. This factor may have direct bearing on the future of the State guidance center system. As the number of centers expand, and newly trained clinicians enter existing or new centers, they may wish to shift from an even expanded program of short-term intervention as opposed to a more traditionally diagnostic and treatment approach. Studies dealing with staff perception of the functions of the State guidance center system, especially those dealing with diagnostic procedures and short versus long-term treatment modalities would be worthwhile if the vitality of well functioning centers is to be maintained.

CHAPTER VI

SUMMARY

This study was an experimental exploration of the relationship between socio-economic status and the diagnosis of mental retardation in children. The research design involved the systematic variation of identical high, middle, and low socio-economic status information among three case studies. The hypotheses tested concerned the possible operation of a diagnostic bias by clinicians as a function of an implicit assumption of IQ-socio-economic status relationship.

The hypotheses specifically dealt with client socio-economic status and: diagnostic decisions, educational class placement and treatment recommendations. The effect length of clinician experience has on diagnostic decision making, as well as possible differences among the cases evaluated by the clinicians, were also considered. It was confirmed that a child from a low socio-economic status group is more likely to be diagnosed as mentally retarded and recommended for an educable class than his counter-part from the middle or high socio-economic class. In one of the three cases evaluated the clinicians significantly favored a diagnosis of mental retardation, across socio-economic status levels. There was no significant difference in treatment

recommendations among the three socio-economic groups.

Diagnostic decisions regarding mental retardation affect and influence the entire life of a child. It appears that the diagnostic process involves value judgments which go beyond those that can be considered within legitimate clinical acumen. Society cannot afford to jeopardize its future by stereotyping any social or economic group. The situation is especially serious in light of recent efforts to equalize advantages among the less economically fortunate groups. Although traditional diagnostic practices in the field of mental retardation have merit, it is necessary to evaluate uncontrolled variables that may disadvantage just those groups we most desire to help.

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APPENDICES

APPENDIX I
COVER LETTER

Letterhead
Date

Dear _____:

For my doctoral dissertation I am studying one of the procedural problems faced at the Cleveland County and other state guidance centers. Specifically, many more referrals are received than can be handled properly. I am attempting to determine if it would be feasible to handle case disposition through means other than traditional staff meeting presentation. It is my hypothesis that a single clinician, studying a completed case history, can make a decision regarding diagnosis and disposition which will parallel results obtained through staff consultation.

Enclosed are three case histories, with test data and behavioral information, typical of those received at the Cleveland County Guidance Center. Their format and information has been somewhat standardized to make your task easier; however, all relevant information has been included.

Please evaluate these cases and complete the data sheet attached to each. Be sure to note the time necessary to evaluate each case. Your time and decisions will be compared with those of clinicians responsible for the case and other staff members at regular meetings.

An addressed envelope is included for return of the face sheets. Case materials need not be returned. It is possible that one or more of your colleagues also are part of the sample population. The validity of the data is contingent upon your not discussing this task until after your analyses have been completed.

Thank you for your consideration. I will notify you of the study's results.

Sincerely,

William L. Neer,
Staff Psychologist
Cleveland County Guidance Center

APPENDIX II
CASE STUDIES H M L

PSYCHOLOGICAL EVALUATION

Name: Tom J.
Age: 6 years, 6 months
Grade: 1
Interview with: mother

Reason for referral: Tom was referred to the Guidance Center by his teacher who is considering retaining Tom in the first grade or recommending him for a special education class, because of his lack of academic progress. Tom's difficulty seems to be centered around his inability to count numbers and his poor reading proficiency. Mrs. J. claims that Tom's teacher reported that he is extremely poor in arithmetic, especially when it concerns counting objects and blocks. He is behind on his class reading assignments, and has difficulty in reading more than one word at a time. Mrs. J. blames herself for a great deal of Tom's difficulties. The family has a vacation house in New Mexico, and they have periodically taken Tom out of school for "ski holidays." Mrs. J. is now questioning whether or not they should send Tom to a private school where, "he will get much more individual attention and help him catch up in his school work." However, both Mrs. J. and her husband attended private schools as youngsters, and feel that they want their children to be more "in the swing of things" by attending the local public school.

Family constellation and background information:

Father: 35 years old
Mother: 33 years old
Children:
 Tom: (client) 6 years, 6 months
 John: 8 years old
 Jerry: 11 years old

Mrs. J. describes Tom as somewhat small for his age. He is a skinny boy who "eats like a horse." Developmentally, she reports that Tom was "slower" than the other children, which seems to worry her. Mrs. J. also feels frustrated when she sees the easy manner in which their housekeeper disciplines the youngsters, as opposed to instances when she finds it difficult to control them.

Results of testing: On the WISC (Wechsler Intelligence Scale for Children), Tom obtained a Full Scale IQ of 74, a Performance score of 74, and a Verbal score of 79. Although there was not a great deal of discrepancy between his Verbal, Performance, and Full Scale scores, it should be noted that there was quite a bit of scatter among the various sub-test scores. Sub-test scores were less homogeneous on the Verbal portion than on the Performance portion, suggesting that Tom experiences difficulty with ideational and conceptual material. Nevertheless, he seems quite aware of his environment and knows what is expected of him. This is reflected in his relatively high Comprehension (test of social judgment) and Information (test of knowledge attained) sub-test scores.

It should be noted that there is some possibility of organic involvement. For example, there was a marked degree of perseveration on some of the Performance items. Tom also had a great deal of difficulty with the Block Design sub-test. On occasion, Tom's answers appeared inappropriate for the question asked, e.g., in defining the word "hat," he said; "Something you put on if you throw it over a fence and you don't know whose it is they might get a knife and tear it up." Thus, it appears in addition to the possibility of neurological involvement, there is a loose type of thinking which is not too far below the surface.

Test scores:

WISC:

Verbal IQ:	79
Performance IQ:	74
Full Scale IQ:	74

<u>WISC Verbal</u>	<u>Scaled Scores</u>	<u>WISC Performance</u>	<u>Scaled Scores</u>
Information	8	Picture Completion	5
Comprehension	10	Picture Arrangement	5
Arithmetic	4	Block Design	8
Similarities	6	Object Assembly	6
Vocabulary	6	Coding	7
(Digit Span)	5		

PSYCHOLOGICAL EVALUATION

Name: Tom J.
Age: 6 years, 6 months
Grade: 1
Interview with: mother

Reason for referral: Tom was referred to the Guidance Center by his teacher who is considering retaining Tom in the first grade or recommending him for a special education class, because of his lack of academic progress. Tom's difficulty seems to be centered around his inability to count numbers and his poor reading proficiency. Mrs. J. claims that Tom's teacher reported that he is extremely poor in arithmetic, especially when it concerns counting objects and blocks. He is behind on his class reading assignments, and has difficulty in reading more than one word at a time. Describing a rather satisfying life, Mrs. J. stated that her husband makes an adequate living of about \$10,000. as a salesman for a restaurant supply house, and they are happy in their home, which they purchased several years ago. Therefore, she does not think that poor home conditions are responsible for Tom's lack of academic progress.

Family constellation and background information:

Father: 35 years old
Mother: 33 years old
Children:
 Tom: (client) 6 years, 6 months
 John: 8 years old
 Jerry: 11 years old

Mrs. J. describes Tom as somewhat small for his age. He is a skinny boy who "eats like a horse." Developmentally, she reports that Tom was "slower" than the other children, which seems to worry her. Mrs. J. sees the family's life style as pretty well stabilized. However, there is the possibility of Mr. J. returning to college parttime to complete his B.B.A. degree. He completed an A.A. degree subsequent to high school. If he does return to school, Mrs. J. thought that she probably would work herself on a part-time basis. She thought that she might even enjoy using

her secretarial skills again. But now she is wondering how her work might affect the children.

Results of testing: On the WISC (Wechsler Intelligence Scale for Children), Tom obtained a Full Scale IQ of 74, a Performance score of 74, and a Verbal score of 79. Although there was not a great deal of discrepancy between his Verbal, Performance, and Full Scale scores, it should be noted that there was quite a bit of scatter among the various sub-test scores. Sub-test scores were less homogeneous on the Verbal portion than on the Performance portion, suggesting that Tom experiences difficulty with ideational and conceptual material. Nevertheless, he seems quite aware of his environment and knows what is expected of him. This is reflected in his relatively high Comprehension (test of social judgment) and Information (test of knowledge attained) sub-test scores.

It should be noted that there is some possibility of organic involvement. For example, there was a marked degree of perseveration on some of the Performance items. Tom also had a great deal of difficulty with the Block Design sub-test. On occasion, Tom's answers appeared inappropriate for the question asked, e.g., in defining the word "hat," he said; "Something you put on, if you throw it over a fence and you don't know whose it is they might get a knife and tear it up." Thus, it appears in addition to the possibility of neurological involvement, there is a loose type of thinking which is not too far below the surface.

Test scores:

WISC:

Verbal IQ:	79
Performance IQ:	74
Full Scale IQ:	74

<u>WISC Verbal</u>	<u>Scaled Scores</u>	<u>WISC Performance</u>	<u>Scaled Scores</u>
Information	8	Picture Completion	5
Comprehension	10	Picture Arrangement	5
Arithmetic	4	Block Design	8
Similarities	6	Object Assembly	6
Vocabulary	6	Coding	7
(Digit Span)	5		

PSYCHOLOGICAL EVALUATION

Name: Tom J.
Age: 6 years, 6 months
Grade: 1
Interview with: mother

Reason for referral: Tom was referred to the Guidance Center by his teacher who is considering retaining Tom in the first grade or recommending him for a special education class, because of his lack of academic progress. Mrs. J. stated that both she and her husband are anxious for Tom to do well in school "so he won't be a school drop-out like we were." Tom's difficulty seems to be centered around his inability to count numbers and his poor reading proficiency. Mrs. J. claims that Tom's teacher reported that he is extremely poor in arithmetic, especially when it concerns counting objects and blocks. He is behind on his class reading assignments, and has difficulty in reading more than one word at a time.

Family constellation and background information:

Father: 35 years old
Mother: 33 years old
Children:
 Tom: (client) 6 years, 6 months
 John: 8 years old
 Jerry: 11 years old

Mrs. J. describes Tom as somewhat small for his age. He is a skinny boy who "eats like a horse." Developmentally, she reports that Tom was "slower" than the other children, which seems to worry her. Otherwise, Mrs. J. describes her marriage and home-life as "satisfactory under the circumstances." She says that it is rather difficult to raise a family on the salary that her husband makes as a delivery man. Sometimes when money is tight, Mrs. J. does some day housework. It gives her a "chance to get away from the house," but at the same time she feels guilty about "leaving the kids to run all on their own."

Results of testing: On the WISC (Wechsler Intelligence Scale for Children), Tom obtained a Full Scale IQ of 74, a Performance score of 74, and a Verbal score of 79. Although there was not a great deal of discrepancy between his Verbal, Performance, and Full Scale scores, it should be noted that there was quite a bit of scatter among the various sub-test scores. Sub-test scores were less homogeneous on the Verbal portion than on the Performance portion, suggesting that Tom experiences difficulty with ideational and conceptual material. Nevertheless, he seems quite aware of his environment and knows what is expected of him. This is reflected in his relatively high Comprehension (test of social judgment) and Information (test of knowledge attained) sub-test scores.

It should be noted that there is some possibility of organic involvement. For example, there was a marked degree of perseveration on some of the Performance items. Tom also had a great deal of difficulty with the Block Design sub-test. On occasion, Tom's answers appeared inappropriate for the question asked, e.g., in defining the word "hat," he said; "Something you put on, if you throw it over a fence and you don't know whose it is they might get a knife and tear it up." Thus, it appears in addition to the possibility of neurological involvement, there is a loose type of thinking which is not too far below the surface.

Test scores:

WISC:

Verbal IQ: 79
Performance IQ: 74
Full Scale IQ: 74

<u>WISC Verbal</u>	<u>Scaled Scores</u>	<u>WISC Performance</u>	<u>Scaled Scores</u>
Information	8	Picture Completion	5
Comprehension	10	Picture Arrangement	5
Arithmetic	4	Block Design	8
Similarities	6	Object Assembly	6
Vocabulary	6	Coding	7
(Digit Span)	5		

PSYCHOLOGICAL EVALUATION

Name: Jane S.
Age: 9 years, 1 month
Grade: 2
Interview with: Mother

Reason for referral: Jane was referred to the Guidance Center because of academic difficulties. She repeated the first grade and is now failing in the second grade, despite apparent motivation to do well in school. Mrs. S. blames herself for a great deal of Jane's difficulties. The family has a vacation house in New Mexico, and they have periodically taken Jane out of school for "ski holidays." Mrs. S. is now questioning whether or not they should send Jane to a private school where, "she will get much more individual attention and help her catch up in her school work." However, both Mrs. S. and her husband attended private schools as youngsters, and feel that they want their children to be more "in the swing of things" by attending the local public school. The school has considered placing Jane in a special education class for the retarded. Jane finds math particularly difficult. It appears as if her self-concept suffers not only from her own inadequacies but from comparisons with her six year old brother, who excels in math, and does problems which she cannot do. Jane can read fairly well but has comprehension difficulties. She cannot catch a ball well, learned to ride a bike only last summer, and is now learning to skate. She cannot use scissors well, but with effort can write adequately. In contrast, her brother is very well coordinated. Mrs. S. revealed that Jane still wets and soils her pants, although she contends this is no big problem, noting that academic difficulties are the only reason she sees for the referral. Mrs. S. then went on to say that Jane engages in considerable rocking behavior, fears the dark and strange places, and is upset about possibly repeating the second grade. However, Mrs. S. did not believe that this behavior was unusual for a youngster. She felt Jane would likely grow out of these concerns.

Family constellation and background information:

Father: 31 years old
Mother: 28 years old

Children:

Jane: (client) 9 years, 1 month
 Mike: 7 months old
 John: 6½ years old

Jane spent a total of approximately one and one half months in the hospital. She has been hospitalized five times for a kidney infection. She eventually had bladder surgery. The parents were permitted to see Jane only during visiting hours. According to Mrs. S., Jane showed no apparent physical or behavioral after-effects from the hospitalizations.

Although overshadowed by John, Jane gets along well with him, and sometimes acts in a maternal manner to the baby, Mike. Mrs. S. sometimes questions her adequacy as a mother, particularly when Jane wets or soils her pants, or when she feels angry towards the children. Mrs. S. feels especially frustrated when she sees the easy manner in which their housekeeper disciplines the youngsters.

Behavioral observations during testing: Jane is a friendly youngster who left her mother without difficulty and seemed at ease with the examiner. She had a rather awkward gait. She was unable to give bits of personal information which one would expect a nine year old to know. For example, she did not know her birthdate and did not know how long she had lived at her present address. However, Jane appeared to know more than she was able to express, perhaps because of anxiety or fear of failure. She finally remembered that her birthday was in January, although she could not supply the date. When asked to write her name and today's date, she hesitated and then said that she did not know how to spell "March." However, when the examiner led her through the spelling step by step, saying; "What do you think comes first, and next, and next..." she spelled the entire word correctly. On two occasions Jane referred to her brothers with dislike. When asked how many brothers and sisters she had, Jane replied, "I have two brothers and..., ugh! It drives me crazy!" At one point she spontaneously said that she hated her six year old brother.

Intellectional functioning: There are some inconsistencies in the test results regarding Jane's level of intellectual functioning. Her performance on the WISC (Wechsler Intelligence Scale for Children) suggests that her present level of functioning is in the Borderline range (Verbal IQ 72, Performance IQ 85, Full Scale IQ 76). However, her performance on the Peabody Picture Vocabulary Test indicates that her receptive vocabulary; her understanding of words, is within the average range (intelligence quotient on the Peabody was 90). The quality of Jane's responses on the TAT (Thematic Apperception Test) were also inconsistent. At times Jane told a well organized story and at other times enumerated or

described the elements in the pictures, the latter behavior more typical of a much younger child.

Although it is not clear whether the disability is the result of an emotional block or neurological dysfunctioning, Jane's Bender designs are suggestive of organic problems. She experienced extreme difficulty when she attempted to reproduce figures with angles and she was unsuccessful in drawing them correctly. She also perseverated as she produced one of the designs.

Personality functioning: Jane's responses to the TAT cards suggest that she is an unusually anxious child. Much of her anxiety appears to center on fear of surgery and of hospitalization. When shown a picture of a boy with a rifle in the foreground, Jane's only response was to shudder and groan, "ugh, ugh!" She said she could not tell a story and when asked why, she shuddered again, and said that she did not know why. In response to another picture she told a story of a woman who was taken to the hospital and returned old. "One of them," she said, "had a crash. The other one just went on and didn't care about the other person. Then a car came along and carried her to the hospital, and she came back old."

Test scores:

WISC:

Verbal IQ: 72
Performance IQ: 85
Full Scale IQ: 76

<u>WISC Verbal</u>	<u>Scaled Scores</u>	<u>WISC Performance</u>	<u>Scaled Scores</u>
Information	5	Picture Completion	8
Comprehension	7	Picture Arrangement	7
Arithmetic	5	Block Design	7
Similarities	5	Object Assembly	8
Vocabulary	5	Coding	9
(Digit Span)	6		

Peabody Picture Vocabulary Test:

IQ: 90

Bender Gestalt:

Koppitz score: 4 $\bar{x}$ for ages 9-0 to 9-5 is 1.7
Neurogenic score: 3 s.d. for ages 9-0 to 9-5 is 1.76

PSYCHOLOGICAL EVALUATION

Name: Jane S.
Age: 9 years, 1 month
Grade: 2
Interview with: Mother

Reason for referral: Jane was referred to the Guidance Center because of academic difficulties. She repeated the first grade and is now failing in the second grade, despite apparent motivation to do well in school. The school has considered placing Jane in a special education class for the retarded. Jane finds math particularly difficult. It appears as if her self-concept suffers not only from her own inadequacies but from comparisons with her six year old brother, who excels in math, and does problems which she cannot do. Jane can read fairly well but has comprehension difficulties. She cannot throw and catch a ball well, learned to ride a bike only last summer, and is now learning to skate. She cannot use scissors well, but with effort can write adequately. In contrast, her brother is very well coordinated. Mrs. S. revealed that Jane still wets and soils her pants, although she contends this is no big problem, noting that academic difficulties are the only reason she sees for the referral. Describing a rather satisfying life, Mrs. S. stated that her husband makes an adequate living of about \$10,000. as a salesman for a restaurant supply house, and they are happy in their home, which they purchased several years ago. Therefore, she does not think that poor home conditions are responsible for Jane's lack of academic progress. Mrs. S. then went on to say that Jane engages in considerable rocking behavior, fears the dark and strange places, and is upset about possibly repeating the second grade. However, Mrs. S. did not believe that this behavior was unusual for a youngster. She felt Jane would probably grow out of these concerns.

Family constellation and background information:

Father: 31 years old
Mother: 28 years old
Children:
 Jane: (client) 9 years, 1 month
 Mike: 7 months old
 John: 6½ years old

Jane spent a total of approximately one and one half months in the hospital. She has been hospitalized five times for a kidney infection. She eventually had bladder surgery. The parents were permitted to see Jane only during visiting hours. According to Mrs. S., Jane showed no apparent physical or behavioral after-effects from the hospitalizations.

Although overshadowed by John, Jane gets along well with him, and sometimes acts in a maternal manner to the baby, Mike. Mrs. S. sometimes questions her adequacy as a mother, particularly when Jane wets or soils her pants, or when she feels angry towards the children. Mrs. S. sees the family's life style as pretty well stabilized. However, there is the possibility of Mr. S. returning to college part-time to complete his B.B.A. degree. He completed an A.A. degree subsequent to high school. If he does return to school, Mrs. S. thought that she probably would work herself on a part-time basis. She thought that she might even enjoy using her secretarial skills again. But now she is wondering how her working might affect the children.

Behavioral observations during testing: Jane is a friendly youngster who left her mother without difficulty and seemed at ease with the examiner. She had a rather awkward gait. She was unable to give bits of personal information which one would expect a nine year old to know. For example, she did not know her birth-date and did not know how long she had lived at her present address. However, Jane appeared to know more than she was able to express, perhaps because of anxiety or fear of failure. She finally remembered that her birthday was in January, although she could not supply the date. When asked to write her name and today's date, she hesitated and then said that she did not know how to spell "March." However, when the examiner led her through the spelling step by step, saying; "What do you think comes first, and next, and next..." she spelled the entire word correctly. On two occasions Jane referred to her brothers with dislike. When asked how many brothers and sisters she had, Jane replied, "I have two brothers and..., ugh! It drives me crazy!" At one point she spontaneously said that she hated her six year old brother.

Intellectual functioning: There are some inconsistencies in the test results regarding Jane's level of intellectual functioning. Her performance on the WISC (Wechsler Intelligence Scale for Children) suggests that her present level of functioning is in the Borderline range (Verbal IQ 72, Performance IQ 85, Full Scale IQ 76). However, her performance on the Peabody Picture Vocabulary Test indicates that her receptive vocabulary; her understanding of words, is within the average range (intelligence quotient on the Peabody was 90). The quality of Jane's responses on the TAT (Thematic Apperception Test) were also inconsistent. At times Jane told a well organized story and at other times enumerated or

described the elements in the pictures, the latter behavior more typical of a much younger child.

Although it is not clear whether the disability is the result of an emotional block or neurological dysfunctioning, Jane's Bender designs are suggestive of organic problems. She experienced extreme difficulty when she attempted to reproduce figures with angles and she was unsuccessful in drawing them correctly. She also perseverated as she produced one of the designs.

Personality functioning: Jane's responses to the TAT cards suggest that she is an unusually anxious child. Much of her anxiety appears to center on fear of surgery and of hospitalization. When shown a picture of a boy with a rifle in the foreground, Jane's only response was to shudder and groan, "ugh, ugh!" She said she could not tell a story and when asked why, she shuddered again, and said that she did not know why. In response to another picture she told a story of a woman who was taken to the hospital and returned old. "One of them," she said, "had a crash. The other one just went on and didn't care about the other person. Then a car came along and carried her to the hospital, and she came back old."

Test scores:

WISC:

Verbal IQ:	72
Performance IQ:	85
Full Scale IQ:	76

<u>WISC Verbal</u>	<u>Scaled Scores</u>	<u>WISC Performance</u>	<u>Scaled Scores</u>
Information	5	Picture Completion	8
Comprehension	7	Picture Arrangement	7
Arithmetic	5	Block Design	7
Similarities	5	Object Assembly	8
Vocabulary	5	Coding	9
(Digit Span)	6		

Peabody Picture Vocabulary Test:

IQ: 90

Bender Gestalt:

Koppitz score:	4	$\bar{x}$ for ages 9-0 to 9-5 is 1.7
Neurogenic score:	3	s.d. for ages 9-0 to 9-5 is 1.76

PSYCHOLOGICAL EVALUATION

Name: Jane S.
Age: 9 years, 1 month
Grade: 2
Interview with: Mother

Reason for referral: Jane was referred to the Guidance Center because of academic difficulties. She repeated the first grade and is now failing in the second grade, despite apparent motivation to do well in school. The school has considered placing Jane in a special education class for the retarded. Jane finds math particularly difficult. Mrs. S. stated that both she and her husband are anxious for Jane to do well in school, "so that she won't be a school drop-out like we were." It appears as if her self-concept suffers not only from her own inadequacies but from comparisons with her six year old brother, who excels in math, and does problems which she cannot do. Jane can read fairly well but has comprehension difficulties. She cannot throw and catch a ball well, learned to ride a bike only last summer, and is now learning to skate. She cannot use scissors well, but with effort can write adequately. In contrast, her brother is very well coordinated. Mrs. S. revealed that Jane still wets and soils her pants, although she contends this is no big problem, noting that academic difficulties are the only reason she sees for the referral. Mrs. S. then went on to say that Jane engages in considerable rocking behavior, fears the dark and strange places, and is upset about possibly repeating the second grade. However, Mrs. S. did not believe that this behavior was unusual for a youngster. She felt that Jane would likely grow out of these concerns.

Family constellation and background information:

Father: 31 years old
Mother: 28 years old
Children:
 Jane: (client 9 years, 1 month
 Mike: 7 months old
 John: 6½ years old

Jane spent a total of approximately one and one half months in the hospital. She has been hospitalized five times for a kidney infection. She eventually had bladder surgery. The parents were permitted to see Jane only during visiting hours. According to Mrs. S., Jane showed no apparent physical or behavioral after-effects from the hospitalizations.

Although overshadowed by John, Jane gets along well with him, and sometimes acts in a maternal manner to the baby, Mike. Mrs. S. sometimes questions her adequacy as a mother, particularly when Jane wets or soils her pants, or when she feels angry towards the children. Otherwise, Mrs. S. describes her marriage and home-life as "satisfactory under the circumstances." She says that it is rather difficult to raise a family on the salary that her husband makes as a delivery man. Sometimes when money is tight, Mrs. S. does some day housework. It gives her a "chance to get away from the house," but at the same time she feels guilty about "leaving the kids to run all on their own."

Behavioral observations during testing: Jane is a friendly youngster who left her mother without difficulty and seemed at ease with the examiner. She had a rather awkward gait. She was unable to give bits of personal information which one would expect a nine year old to know. For example, she did not know her birthdate and did not know how long she had lived at her present address. However, Jane appeared to know more than she was able to express, perhaps because of anxiety or fear of failure. She finally remembered that her birthday was in January, although she could not supply the date. When asked to write her name and today's date, she hesitated and then said that she did not know how to spell "March." However, when the examiner led her through the spelling step by step, saying: "What do you think comes first, and next, and next..." she spelled the entire word correctly. On two occasions Jane referred to her brothers with dislike. When asked how many brothers and sisters she had, Jane replied, "I have two brothers and..., ugh! It drives me crazy!" At one point she spontaneously said that she hated her six year old brother.

Intellectual functioning: There are some inconsistencies in the test results regarding Jane's level of intellectual functioning. Her performance on the WISC (Wechsler Intelligence Scale for Children) suggests that her present level of functioning is in the Borderline range (Verbal IQ 72, Performance IQ 85, Full Scale IQ 76). However, her performance on the Peabody Picture Vocabulary Test indicates that her receptive vocabulary; her understanding of words, is within the average range (intelligence quotient on the Peabody was 90). The quality of Jane's responses on the TAT (Thematic Apperception Test) were also inconsistent. At times Jane told a well organized story and at other times enumerated or described the elements in the pictures, the latter behavior more typically of a much younger child.

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Test scores:

WISC:

Verbal IQ:	72
Performance IQ:	85
Full Scale IQ:	76

<u>WISC Verbal</u>	<u>Scaled Scores</u>	<u>WISC Performance</u>	<u>Scaled Scores</u>
Information	5	Picture Completion	8
Comprehension	7	Picture Arrangement	7
Arithmetic	5	Block Design	7
Similarities	5	Object Assembly	8
Vocabulary	5	Coding	9
(Digit Span)	6		

Peabody Picture Vocabulary Test:

IQ: 90

Bender Gestalt:

Koppitz score:	4	$\bar{x}$ for ages 9-0 to 9-5 is 1.7
Neurogenic score:	3	s.d. for ages 9-0 to 9-5 is 1.76

PSYCHOLOGICAL EVALUATION

Name: Billy C.
Age: 7 years, 9 months
Grade: 2
Interview with: Mother

Reason for referral: Mrs. C. brought Billy to the Guidance Center at the insistence of his teacher and the school guidance counselor. Although Billy presents no behavioral problems, his teacher reports that Billy is not performing on par with his academic grade level. The teacher told Mrs. C. that she suspects Billy is retarded and would therefore do better in a special education class. Mrs. C., however, feels that the school is probably "not motivating Billy properly." She also blames herself for a great deal of Billy's difficulties. The family has a vacation house in New Mexico, and they have periodically taken Billy out of school for "ski holidays." Mrs. C. is now questioning whether or not they should send Billy to a private school where, "he will get much more individual attention and help him catch up in his school work." However, both Mrs. C. and her husband attended private schools as youngsters, and feel that they want their children to be more in the "swing of things" by attending the local public school. Mrs. C. is also interested in finding out if Billy is a gifted child. She suspects that he is gifted because of the spontaneous manner in which he responds verbally, and his ability to play alone. Mrs. C. views Billy's mode of play as a sign of maturity and feels that this play is advanced for Billy's age, e.g., when Billy engages in imaginary play using toys or other objects "all on his own."

Family constellation and background information:

Father: 30 years old
Mother: 29 years old
Children:
 Billy: (client) 7 years, 9 months
 Russell: 9 years old
 Diane: 11 years old

Mrs. C. received early prenatal care. She gained twenty pounds during pregnancy. Otherwise, the pregnancy was unremarkable. No medications were taken during pregnancy. She was in labor for seven hours. The baby was a breech presentation and forceps were used. The baby started breathing on his own, and no difficulty was recorded. Birth weight was about 6 lbs., 7 ozs. The neonatal period was unremarkable except that Billy had "some colic." Billy crawled at nine to ten months, walked at approximately fifteen months, used single words at one year, and spoke three word sentences at about one and a half to two years of age. Bowel and bladder control were within normal limits.

Mrs. C. describes Billy as being more assertive and demanding of his rights than his brother and sister. However, she believes that all the children get along well, with a "normal amount of arguments and cooperation." Sometimes the children's arguments get on her nerves. Mrs. C. feels especially frustrated when she sees the easy manner in which their housekeeper disciplines the youngsters.

Behavioral observations during testing: Billy's mother was sitting with him when the examiner met him. Billy accompanied the examiner into the testing room with no resistance. Once inside, however, Billy seemed fidgety, anxious, and he had some difficulty following the examiner's directions. Billy's constant verbalizations were spontaneous. He talked about discrete and extraneous subjects. He would impulsively respond in a loud voice to questions, sometimes before the examiner could complete the question. The content of his responses provided stimuli for further verbalizations. Billy gave some "clang association" responses on the WISC. The examiner rephrased the questions, and asked Billy to repeat several of them in an effort to be certain that he both understood and could hear the examiner. Although the examiner was certain that Billy understood and heard the material, the quality of his responses did not improve.

Billy did not seem distracted by the visual stimuli in the room. He did not get up from his chair or turn his attention from the tasks at hand. He did, towards the end of the session, stretch, yawn, and ask if he was almost finished. Billy manifested some social awareness. He always referred to the examiner by name. He wiped his feet when coming in from outside. He said, "thank you," when given a tissue. In general, the results of the testing can be considered a good sample of this child's present functioning.

Results of testing:

WISC (Wechsler Intelligence Scale for Children): Billy achieved a Full Scale IQ of 77, which places his capacity to learn within the borderline range of measured intelligence. There is a significant difference of 14 points between his Verbal score of 72 and

his Performance score of 86. There is moderate scatter in the 11 subtest scores. Block Design and Object Assembly are average for his age. These subtests are considered measures of perceptual organization and spatial visualization ability. They tap skills denoting analysis and synthesis, as well as discrimination and recognition abilities. Picture Arrangement, Comprehension, Coding, Arithmetic, and Vocabulary all show slightly more than a one year deficit. Thus, Billy's achievement on these subtests point to mild delays in common sense or social alertness, i.e., the utilization of intelligence as applied to social or interpersonal situations, visual-motor dexterity and the ability to learn new material, the ability to concentrate and use abstract concepts of numbers and numerical operations, as well as general word knowledge skills. Billy showed approximately a two year delay on the Information, Similarities, and Digit Span subtests. These moderate delays signify weakness in retention of learned information which is usually abstracted from the environment, as well as attention and short term auditory memory.

Frostig: The Frostig was administered to determine visual perceptual development in five areas. Billy's over-all perceptual quotient is below 65. He shows moderate delays of up to three and a half years in four of the five areas measured. These are Eye-Motor (5 years, 3 months), Position in Space (5 years), Figure Ground (4 years, 3 months), and Spatial Relations (4 years).

Bender Gestalt: Billy reproduced the figures with very poor quality and many of his drawings have a primitive feeling to them. For example, he substituted circles for dots which is characteristic of a much younger child. He also had a good deal of perseveration where he continued off the side of the page. He seemed unable to control or limit the size and amount of his drawing in relation to the stimulus card. There was also a good deal of overlap among his drawings. His test record reflected a lack of planning ability. There are numerous instances in which the size of the Gestalt was altered from the small stimulus figure to Billy's very large figures. This is another indication of his inability to control or limit his impulses. Using the Koppitz scoring method, Billy made a score of 12, giving him a Visual-Motor age of 5 years, 6 months. His neurogenic score was 11.

ITPA (Illinois Test of Psycholinguistic Abilities): On the ITPA Billy had moderate to severe impairment in a majority of the visual and auditory areas measured. It is remarkable that on Sound Blending, Billy scored ceiling for the sub-test (8 years, 7 months). In this particular subtest the task is to combine into words, syllables of words that are spoken slowly and distinctly.

WRAT (Wide Range Achievement Test): Though moderate to severe delays are evidenced in arithmetic and spelling achievement, Billy's reading achievement measures approximately on grade level.

Test scores:WISC:

Verbal IQ: 72
 Perf. IQ: 86
 Full Scale IQ: 77

WISC Verbal

	<u>Scaled Scores</u>	<u>Age Equivalent</u>
Information	5	5-6
Comprehension	7	6-6
Arithmetic	6	6-6
Similarities	4	5-6
Vocabulary	7	6-6
(Digit Span)	5	5-6

WISC Performance

	<u>Scaled Scores</u>	<u>Age Equivalent</u>
Picture Completion	7	5-6
Picture Arrangement	7	6-6
Block Design	9	7-6
Object Assembly	9	7-6
Coding	8	5-6

ITPA results:

<u>Subtests</u>	<u>Age Equivalent</u>	<u>Scaled Scores</u>
Auditory Reception	3-10	20
Visual Reception	3-4	22
Auditory Association	3-5	6
Visual Association	4-6	20
Verbal Expression	4-6	25
Manual Expression	7-6	37
Gramatic Closure	4-5	17
Visual Closure	5-0	24
Auditory Memory	4-10	28
Visual Memory	3-1	11

Comp. PLA: 4-5
 PLQ: 57

Mean SS: 21
 Median SS: 21

Auditory Closure	4-8	21
Sound Blending	8-7	47

Frostig results:

<u>Subtests</u>	<u>Age Equivalent</u>	<u>Scaled Scores</u>
Eye-Motor Coordination	5-3	7
Figure Ground	4-3	5
Form Constancy	7-0	9
Position in Space	5-0	6
Spatial Relations	4-0	5

Perceptual Quotient: Below 65

Bender Gestalt:

Koppitz score: 12
Neurogenic score: 11
Visual-Motor age: 5 years, 6 months

$\bar{x}$ score for ages 7-6 to
7-11 is 4.7

s.d. for ages 7-6 to 7-11
is 3.34

WRAT:

Reading grade level: 2.0
Spelling grade level: 1.0
Arithmetic grade level: .9

PSYCHOLOGICAL EVALUATION

Name: Billy C.
Age: 7 years, 9 months
Grade: 2
Interview with: Mother

Reason for referral: Mrs. C. brought Billy to the Guidance Center at the insistence of his teacher and the school guidance counselor. Although Billy presents no behavioral problems, his teacher reports that Billy is not performing on par with his academic grade level. The teacher told Mrs. C. that she suspects Billy is retarded and would therefore do better in a special education class. Mrs. C., however, feels that the school is probably "not motivating Billy properly." Describing a rather satisfying life, Mrs. C. stated that her husband makes an adequate living of about \$10,000. as a salesman for a restaurant supply house, and they are happy in their home, which they purchased several years ago. Therefore, she does not think that poor home conditions are responsible for Billy's lack of academic progress. Mrs. C. is also interested in finding out if Billy is a gifted child. She suspects that he is gifted because of the spontaneous manner in which he responds verbally, and his ability to play alone. Mrs. C. views Billy's mode of play as a sign of maturity and feels that this play is advanced for Billy's age, e.g., when Billy engages in imaginary play using toys or other objects "all on his own."

Family constellation and background information:

Father: 30 years old
Mother: 29 years old
Children:
 (client) 7 years, 9 months
 9 years old
 11 years old

Mrs. C. received early prenatal care. She gained about twenty pounds during pregnancy. Otherwise, the pregnancy was unremarkable. No medications were taken during pregnancy. She was in labor for seven hours. The baby was a breech presentation and forceps were used. The baby started breathing on his own and no

difficulty was recorded. Birth weight was about 6 lbs., 7 ozs. The neonatal period was unremarkable except that Billy had "some colic." Billy crawled at nine to ten months, walked at approximately fifteen months, used single words at one year, and spoke three word sentences at about one and a half to two years of age. Bowel and bladder control were within normal limits.

Mrs. C. describes Billy as being more assertive and demanding of his rights than his brother and sister. However, she believes that all the children get along well, with a "normal amount of arguments and cooperation." Sometimes the children's arguments get on her nerves. Mrs. C. sees the family's life style as pretty well stabilized. However, there is the possibility of Mr. C. returning to college part-time to complete his B.B.A. degree. He completed an A.A. degree subsequent to high school. If he does return to school, Mrs. C. thought that she probably would work herself on a part-time basis. She thought that she might even enjoy using her secretarial skills again. But now she is wondering how her working might affect the children.

Behavioral observations during testing: Billy's mother was sitting with him when the examiner met him. Billy accompanied the examiner into the testing room with no resistance. Once inside, however, Billy seemed fidgety, anxious, and he had some difficulty following the examiner's directions. Billy's constant verbalizations were spontaneous. He talked about discrete and extraneous subjects. He would impulsively respond in a loud voice to questions, sometimes before the examiner could complete the question. The content of his responses provided stimuli for further verbalizations. Billy gave some "clang association" responses on the WISC. The examiner rephrased the questions, and asked Billy to repeat several of them in an effort to be certain that he both understood and could hear the examiner. Although the examiner was certain that Billy understood and heard the material, the quality of his responses did not improve.

Billy did not seem distracted by the visual stimuli in the room. He did not get up from his chair or turn his attention from the tasks at hand. He did, towards the end of the session, stretch, yawn, and ask if he was almost finished. Billy manifested some social awareness. He always referred to the examiner by name. He wiped his feet when coming in from outside. He said, "thank you," when given a tissue. In general, the results of the testing can be considered a good sample of this child's present level of functioning.

Results of testing:

WISC (Wechsler Intelligence Scale for Children): Billy achieved a Full Scale IQ of 77, which places his capacity to learn within the borderline range of measured intelligence. There is a significant

difference of 14 points between his Verbal score of 72 and his Performance score of 86. There is moderate scatter in the 11 subtest scores. Block Design and Object Assembly are average for his age. These subtests are considered measures of perceptual organization and spatial visualization ability. They tap skills denoting analysis and synthesis, as well as discrimination and recognition abilities. Picture Arrangement, Comprehension, Coding, Arithmetic, and Vocabulary all show slightly more than a one year deficit. Thus, Billy's achievement on these subtests point to mild delays in common sense or social alertness, i.e., the utilization of intelligence as applied to social or interpersonal situations, visual-motor dexterity and the ability to learn new material, the ability to concentrate and use abstract concepts of numbers and numerical operations, as well as general word knowledge skills. Billy showed approximately a two year delay on the Information, Similarities, and Digit Span subtests. These moderate delays signify weakness in retention of learned information which is usually abstracted from the environment, as well as attention and short term auditory memory.

Frostig: The Frostig was administered to determine visual perceptual development in five areas. Billy's over-all perceptual quotient is below 65. He shows moderate delays of up to three and a half years in four of the five areas measured. These are Eye-Motor (5 years, 3 months), Position in Space (5 years), Figure Ground (4 years, 3 months), and Spatial Relations (4 years).

Bender Gestalt: Billy reproduced the figures with very poor quality and many of his drawings have a primitive feeling to them. For example, he substituted circles for dots which is characteristic of a much younger child. He also had a good deal of perseveration where he continued off the side of the page. He seemed unable to control or limit the size and amount of his drawings in relation to the stimulus card. There was also a good deal of overlap among his drawings. His test record reflected a lack of planning ability. There are numerous instances in which the size of the Gestalt was altered from the small stimulus figure to Billy's very large figures. This is another indication of his inability to control or limit his impulses. Using the Koppitz scoring method, Billy made a score of 12, giving him a Visual-Motor age of 5 years, 6 months. His neuro-genic score was 11.

ITPA (Illinois Test of Psycholinguistic Abilities): On the ITPA Billy had moderate to severe impairment in a majority of the visual and auditory areas measured. It is remarkable that on Sound Blending, Billy scored ceiling for the sub-test (8 years, 7 months). In this particular sub-test the task is to combine into words, syllables of words that are spoken slowly and distinctly.

WRAT (Wide Range Achievement Test): Though moderate to severe delays are evidenced in arithmetic and spelling achievement, Billy's reading achievement measures approximately on grade level.

Test scores:

WISC:

Verbal IQ: 72
 Perf. IQ: 86
 Full Scale IQ: 77

WISC Verbal

	<u>Scaled Scores</u>	<u>Age Equivalent</u>
Information	5	5-6
Comprehension	7	6-6
Arithmetic	6	6-6
Similarities	4	5-6
Vocabulary	7	6-6
(Digit Span)	5	5-6

WISC Performance

	<u>Scaled Scores</u>	<u>Age Equivalent</u>
Picture Completion	7	5-6
Picture Arrangement	7	6-6
Block Design	9	7-6
Object Assembly	9	7-6
Coding	8	6-6

ITPA results:

<u>Subtests</u>	<u>Age Equivalent</u>	<u>Scaled Scores</u>
Auditory Reception	3-10	20
Visual Reception	3-4	22
Auditory Association	3-5	6
Visual Association	4-6	20
Verbal Expression	4-6	25
Manual Expression	7-6	37
Grammatical Closure	4-5	17
Visual Closure	5-0	24
Auditory Memory	4-10	28
Visual Memory	3-1	11

Comp. PLA: 4-5
 PLQ: 57

Mean SS: 21
 Median SS: 21

Auditory Closure	4-8	21
Sound Blending	8-7	47

Frostig results:

<u>Subtests</u>	<u>Age Equivalent</u>	<u>Scaled Scores</u>
Eye-Motor Coordination	5-3	7
Figure Ground	4-3	5
Form Constancy	7-0	9
Position in Space	5-0	6
Spatial Relations	4-0	5

Perceptual Quotient: Below 65

Bender Gestalt:

Koppitz score: 12
Neurogenic score: 11
Visual-Motor age: 5 years, 6 months

$\bar{x}$ score for ages 7-6 to
7-11 is 4.7

s.d. for ages 7-6 to 7-11
is 3.34

WRAT:

Reading grade level: 2.0
Spelling grade level: 1.0
Arithmetic grade level: .9

PSYCHOLOGICAL EVALUATION

Name: Billy C.
Age: 7 years, 9 months
Grade: 2
Interview with: Mother

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7-11 is 4.7

s.d. for ages 7-6 to 7-11
is 3.34

WRAT:

Reading grade level: 2.0
Spelling grade level: 1.0
Arithmetic grade level: .9

APPENDIX III
SOCIO-ECONOMIC STATUS INFORMATION

Low socio-economic status:

Mrs. _____ stated that both she and her husband are anxious for _____ to do well in school, "so that (he)(she) won't be a school drop-out like we were." Mrs. _____ described her marriage and home life as "satisfactory under the circumstances." She says that it is rather difficult to raise a family on the salary that her husband makes as a delivery man. Sometimes when money is tight, Mrs. _____ does some day housework. It gives her a "chance to get away from the house," but she feels guilty about "leaving the kids to run all on their own."

Middle socio-economic status:

Mrs. _____ described a rather satisfying life. She stated that her husband makes an adequate living of about \$10,000. per year, as a salesman for a restaurant supply house and they are happy in their home, which they purchased several years ago. Mrs. _____ sees the family's life style as pretty well stabilized. However, there is the possibility of Mr. _____ returning to college part-time to complete his B.B.A. degree. He completed an A.A. degree subsequent to high school. If he does return to school, Mrs. _____ thought that she would probably work herself on a part-time basis. She thought that she might enjoy using her secretarial skills again.

High socio-economic status:

Mrs. _____ blames herself for a great deal of _____'s difficulties. The family has a vacation house in New Mexico, and they have periodically taken _____ out of school for "ski holidays."

Mrs. _____ is now questioning whether or not they should send _____ to a private school where, "_____ will get much more individual attention and help (him) (her) catch up in (his) (her) school work." However, both Mrs. _____ and her husband attended private schools as youngsters, and feel that they wanted their children to be more "in the swing of things" by attending the local public school. Mrs. _____ feels especially frustrated when she sees the easy manner in which their house keeper disciplines the youngsters.

APPENDIX IV
DATA SHEET - NAME MISSING

DATA SHEET

Professional status, (i.e., Psychologist I, II, III, or IV) _____.

Years of clinical experience _____.

Directions:

Please enter the probable percent you feel EACH diagnostic category listed below applies to this case. EACH CATEGORY IS TO BE ANSWERED INDEPENDENTLY. It is NOT necessary for the sum of the three diagnostic categories to equal 100 percent.

1. probability youngster is mentally retarded: _____ percent.
 2. probability youngster has emotional problems: _____ percent.
 3. probability youngster has organic involvement: _____ percent.
-
1. Do you recommend psychotherapy for this youngster? YES ___NO___

Directions:

If you feel this youngster would benefit from special class placement, rank order your recommendations for type of class placement, independent of openings (availability). 1 equals first choice, 2 equals second choice, etc.

- a. Educable class _____
- b. Learning disability class _____
- c. Emotionally disturbed class _____

Directions:

Please enter the amount of time it took you to reach these diagnostic decisions and treatment recommendations for this case. Please include the time it took you to complete this data sheet as well.

1. Total time taken _____