

DIFFERENCES BETWEEN SERIOUSLY EMOTIONALLY
DISTURBED AND SOCIALLY MALADJUSTED
BOYS ON MEASURES OF ACADEMIC
ACHIEVEMENT AND RATINGS OF
EMOTIONAL AND BEHAVIORAL
PROBLEMS

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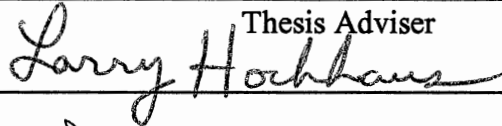
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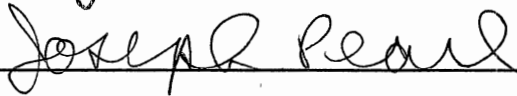
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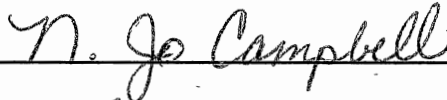
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TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION	1
Statement of the Problem	3
Study I	4
Analysis I	4
Analysis II	5
Study II	5
Analysis I	6
Analysis II	6
Analysis III	7
Analysis IV	7
Study III	8
Significance of the Study	9
Definition of Terminology	9
II. REVIEW OF THE LITERATURE	11
Introduction	11
Classification Perspectives	11
Categorical Model	12
Empirical/Dimensional Model	14
Social Systems Model	17
Multiple Diagnoses	17
Academic Achievement	20
Academic Achievement and Social Maladjustment	21
Academic Achievement and Emotional Disturbance	23
Summary	27
III. METHODOLOGY	29
Introduction	29
Subjects	29
Instrumentation	31
Procedures	34
Ethical Considerations	35
Statistical Procedures	35

Chapter	Page
Summary	38
IV. RESULTS	40
Study I	40
Anxiety-Withdrawal Dimension	40
Psychotic Behavior Dimension	41
Study II	42
Conduct Disorder Dimension	43
Socialized Aggression Dimension	43
Attention Problems Dimension	44
Motor Excess Dimension	44
Study III	48
Summary	49
V. DISCUSSION	51
Limitations of the Study	53
Implications	54
Future Study and Research	56
REFERENCES	59
APPENDIXES	72
APPENDIX A - WRITTEN CONSENT FORM	73
APPENDIX B - IRB APPROVAL FORM	75

LIST OF TABLES

Table	Page
I. Characteristics of the Sample	30
II. Raw Score Cell Means, Marginal Means, and Standard Deviations for the RBPC Anxiety-Withdrawal Dimension	41
III. Raw Score Cell Means, Marginal Means, and Standard Deviations for the RBPC Psychotic Behavior Dimension	42
IV. Raw Score Cell Means, Marginal Means, and Standard Deviations for the RBPC Conduct Disorder Dimension	45
V. Raw Score Cell Means, Marginal Means, and Standard Deviations for the RBPC Socialized Aggressive Dimension	45
VI. Raw Score Cell Means, Marginal Means, and Standard Deviations for the RBPC Attention Problems Dimension	46
VII. Raw Score Cell Means, Marginal Means, and Standard Deviations for the RBPC Motor Excess Dimension	47
VIII. Academic Achievement Mean Scores and Standard Deviations for SED and Socially Maladjusted Boys	49

LIST OF FIGURES

Figure	Page
1. Cell Means of Staff and Teacher Ratings on the RBPC Dimension Motor Excess	47

CHAPTER I

INTRODUCTION

Children and youth with emotional disturbance and or behavior disorders are reported to be underserved and underidentified (Goldman, 1988; Knitzer, 1982; Melton, 1987b). Traditional services to these children are also reported to be unnecessarily restrictive and ineffective (Melton, 1987a; Saxe, Cross, & Silverman, 1988; Weithorn, 1988). Due to child advocacy coalitions and recent court rulings, there is growing recognition of the need to develop a comprehensive, community-based system of care for this population (Goldman, 1988; Knitzer, 1982; Melton, 1987; Saxe, Cross, & Silverman, 1988; Stoul & Friedman, 1986; Tuma, 1989). Melton (1987) reports, "To a far greater extent than adult services, child mental health services require consideration of services in multiple systems" (p. 3). These services should include a "comprehensive spectrum of mental health and other necessary services which are organized into a coordinated network to meet the multiple and changing needs of children and adolescents who are severely emotionally disturbed and their families" (Child and Adolescent Service System Program, 1988, p. 2).

Schools have been identified as an essential component of this community-based system of care. The daily interaction between teacher and student, availability of special education and related services, and the potential for parent involvement place the school in an important position to help emotionally disturbed children. Close cooperation

between education and mental health services has been recommended by various professionals and organizations (Friedman, 1985; Stoul & Friedman, 1986).

School systems, however, have been criticized for failing to implement ethical and legal mandates that would contribute to effectively helping these children and youth (Knitzer, 1982, 1989). In a recent national survey of state services to children and youth, Knitzer (1982) reports widespread problems of service delivery in the schools.

"Seriously disturbed adolescents are especially likely to receive inappropriate services or no services at all. They are often expelled, suspended from school, given shortened school days, or placed on homebound instruction" (p. 69). She describes a rather upset teacher who put an emotionally disturbed six year old child in a cab and sent him home alone after the teacher could no longer control him. Other studies have reported similar difficulties and methods of dealing with seriously emotionally disturbed children. After reviewing the 1984 U.S. Office of Special Education figures on educational services to handicapped children, Friedman (1984) concludes, "large numbers of seriously emotionally disturbed children are not being identified and served, despite laws like P.L. 94-142 which clearly mandate that all handicapped children receive a free and appropriate education" (p. 7).

Many of the difficulties facing schools in meeting the educational needs of emotionally disturbed youth can be traced to the confusion over what constitutes a child who is "seriously emotionally disturbed" (SED). There is little consensus regarding interpretation of the federal definition and how to distinguish between children who are SED and children who are "socially maladjusted". Because socially maladjusted children are specifically excluded from the SED definition, it is essential that schools have a clear

concept of who is and who is not SED. Without clear guidelines schools will not be able to participate responsibly in a comprehensive, community-based plan and provide necessary and appropriate educational services to SED children and youth.

Statement of the Problem

The federal definition of SED has been criticized in recent years for its lack of standardized terminology and eligibility criteria. Specifically, the definition excludes children who are "socially maladjusted" but does not define social maladjustment. The problem investigated in the present study is whether socially maladjusted and seriously emotionally disturbed boys can be distinguished from one another using behavior ratings and measures of academic achievement. The purpose of the present research is to investigate differences between selected emotional and behavioral problem characteristics and between selected measures of academic achievement of seriously emotionally disturbed and socially maladjusted boys. This is an exploratory investigation and involves three separate studies. The first study contrasts differences between boys hospitalized for emotional problems (seriously emotionally disturbed group) and boys institutionalized for social maladjustment (socially maladjusted group) along two emotional dimensions of child problem behaviors: anxiety-withdrawal and psychotic behavior. The second study investigates differences between these two groups of subjects on four behavioral dimensions of child problem behavior: Conduct disorder, socialized aggression, attention problems, and motor excess. The third study compares reading, mathematics, and written language achievement between the two groups of subjects.

Study I

This study investigates rating differences between two groups of subjects on two dimensions of emotional disturbance, anxiety-withdrawal and psychotic behavior as rated on the Revised Behavior Problem Checklist (RBPC). In addition, differences between ratings done by teachers and ratings done by staff are investigated. The reliability and validity of the RBPC dimensions anxiety-withdrawal and psychotic problems, will be discussed in Chapter III. The null hypotheses to be tested in the two analyses are:

Analysis I

Hypothesis 1: There is no difference between the mean ratings on the Revised Behavior Problem Checklist dimension of anxiety-withdrawal for seriously emotionally disturbed boys and the mean ratings on the Revised Behavior Problem Checklist dimension of anxiety-withdrawal for socially maladjusted boys.

Hypothesis 2: There is no difference between mean ratings of the two groups of subjects on the Revised Behavior Problem Checklist dimension of anxiety-withdrawal as rated by teachers and mean ratings on the Revised Behavior Problem Checklist dimension of anxiety-withdrawal as rated by staff.

Hypothesis 3: Type of rater, teacher or staff, and the type of boy, seriously emotionally disturbed or socially maladjusted, do not interact to affect mean ratings on the Revised Behavior Problem Checklist dimension anxiety-withdrawal.

Analysis II

Hypothesis 4: There is no difference between the mean ratings on the Revised Behavior Problem Checklist dimension of psychotic behavior for seriously emotionally disturbed boys and the mean ratings on the Revised Behavior Problem Checklist dimension of psychotic behavior for socially maladjusted boys.

Hypothesis 5: There is no difference between mean ratings of the two groups of subjects on the Revised Behavior Problem Checklist dimension of psychotic behavior as rated by teachers and mean ratings on the Revised Behavior Problem Checklist dimension of psychotic behavior as rated by staff.

Hypothesis 6: Type of rater, teacher or staff, and the type of boy, seriously emotionally disturbed or socially maladjusted, do not interact to affect mean ratings on the Revised Behavior Problem Checklist dimension psychotic behavior.

Study II

This study investigates rating differences between two groups of subjects on four dimensions of behavior problems: conduct disorder, socialized aggression, attention problems, and motor excess as rated on the Revised Behavior Problem Checklist (RBPC). In addition differences between ratings done by teachers and ratings done by staff are investigated. The reliability and validity of the RBPC dimensions conduct disorder, socialized aggression, attention problems, and motor excess, will be discussed in Chapter III. The null hypotheses to be tested in the four analyses are:

Analysis I

Hypothesis 7: There is no difference between the mean ratings on the Revised Behavior Problem Checklist dimension of conduct disorder for seriously emotionally disturbed boys and the mean ratings on the Revised Behavior Problem Checklist dimension of conduct disorder for socially maladjusted boys.

Hypothesis 8: There is no difference between mean ratings of the two groups of subjects on the Revised Behavior Problem Checklist dimension of conduct disorder as rated by staff.

Hypothesis 9: Type of rater, teacher or staff, and the type of boy, seriously emotionally disturbed or socially maladjusted, do not interact to affect mean ratings on the Revised Behavior Problem Checklist dimension conduct disorder.

Analysis II

Hypothesis 10: There is no difference between the mean ratings on the Revised Behavior Problem Checklist dimension of socialized aggression for seriously emotionally disturbed boys and the mean ratings on the Revised Behavior Problem Checklist dimension of socialized aggression for socially maladjusted boys.

Hypothesis 11: There is no difference between mean ratings of the two groups of subjects on the Revised Behavior Problem Checklist dimension of socialized aggression as rated by teachers and mean ratings on the Revised Behavior Problem Checklist dimension of socialized aggression as rated by staff.

Hypothesis 12: Type of rater, teacher or staff, and the type of boys, seriously emotionally disturbed or socially maladjusted, do not interact to affect mean ratings on the Revised Behavior Problem Checklist dimension socialized aggression.

Analysis III

Hypothesis 13: There is no difference between the mean ratings on the Revised Behavior Problem Checklist dimension of attention problems for seriously emotionally disturbed boys and the mean ratings on the Revised Behavior Problem Checklist dimension of attention problems for socially maladjusted boys.

Hypothesis 14: There is no difference between mean ratings of the two groups of subjects on the Revised Behavior Problem Checklist dimension of attention problems as rated by teachers and mean ratings on the Revised Behavior Problem Checklist dimension of attention problems as rated by staff.

Hypothesis 15: Type of rater, teacher or staff, and the type of boys, seriously emotionally disturbed or socially maladjusted, do not interact to affect mean ratings on the Revised Behavior Problem Checklist dimension attention problems.

Analysis IV

Hypothesis 16: There is no difference between the mean ratings on the Revised Behavior Problem Checklist dimension of motor excess for seriously emotionally disturbed boys and the mean ratings on the Revised Behavior Problem Checklist dimension of motor excess for children institutionalized for social maladjustment.

Hypothesis 17: There is no difference between mean ratings of the two groups of subjects on the Revised Behavior Problem Checklist dimension of motor excess as rated

by teachers and mean ratings on the Revised Behavior Problem Checklist dimension of motor excess as rated by staff.

Hypothesis 18: Type of rater, teacher or staff, and the type of boy, seriously emotionally disturbed or socially maladjusted, do not interact to affect mean ratings on the Revised Behavior Problem Checklist dimension motor excess.

Study III

This study investigates differences between the academic achievement in reading, mathematics, and written language of the two groups of subjects, as measured by scores on the Woodcock-Johnson. The null hypotheses to be tested are:

Hypothesis 19: There is no difference between Woodcock-Johnson mean reading cluster scores of a group of seriously emotionally disturbed boys and Woodcock-Johnson mean reading cluster scores of a group of socially maladjusted boys.

Hypothesis 20: There is no difference between Woodcock-Johnson mean mathematics cluster scores of a group of seriously emotionally disturbed boys and Woodcock-Johnson mean mathematics cluster scores of a group of socially maladjusted boys.

Hypothesis 21: There is no difference between Woodcock-Johnson mean written language cluster scores of a group of seriously emotionally disturbed boys and Woodcock-Johnson mean written language cluster scores of a group of socially maladjusted boys.

Significance of the Study

Emotional problems have long been recognized as adversely affecting academic performance of children and youth. These problems are termed educationally handicapping and require special placement in classes with specially trained staff. Recently it has been suggested that behavioral problems may also be educationally handicapping and require special educational and related services. Few studies, however, have addressed the question: Are behavior disorders as academically handicapping as emotional disturbance? Conclusions from these studies are limited due to the restrictiveness of the sample such as the use of students in public school SED classes, and the lack of clear eligibility criteria for placement in SED classes. If schools are to meet their responsibilities to provide effective educational services to all in need, they will need to know more about the academic abilities of socially maladjusted children and youth.

Definition of Terminology

Seriously Emotionally Disturbed: The current definition of seriously emotionally disturbed according to the Education for All Handicapped Children Act (EHA) (U. S. Congress, 1975), is "a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree, which adversely affects educational performance: a) an inability to learn which cannot be explained by intellectual, sensory or health factors; b) an inability to build or maintain satisfactory interpersonal relationships with peers and teachers; c) inappropriate types of behavior or feelings under normal circumstances; d) a general pervasive mood of unhappiness or depression; and e)

a tendency to develop physical symptoms or fears associated with personal or social problems (U. S. Congress, 1975). Furthermore, the law specifically states this definition "does not include children who are socially maladjusted" (p. 42478).

Social Maladjustment: A federal definition is not available. Generally, this term is applied to children who exhibit various patterns of coercive and antisocial behavior and are often referred to as behavior disordered. Whereas all these children exhibit various degrees of aggressive, non-compliant, and disruptive behaviors, they are frequently subtyped into two groups. The aggressive type, often referred to as conduct disordered, are usually confrontive, assaultive, and destructive. The aggressive type also experiences social alienation. On the other hand, the delinquent type is less overtly aggressive and more socially adept than the aggressive type. They are typically characterized by their acts of stealing, truancy, and vandalism. Due to the associative features of conduct disorder-related problems, children with attention deficit, hyperactivity disorder may also be considered socially maladjusted.

Children: Unless identified otherwise by the investigators cited in the literature, the term children will be used to include both children, pre-adolescent and adolescent youth between the ages 6 and 18 years old.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The purpose of this research is to investigate differences between selected emotional and behavioral problem characteristics and between selected measures of academic achievement of disturbed and socially maladjusted boys. The first section of this chapter will focus on several classification perspectives commonly used in the schools to distinguish SED from socially maladjusted children and is related to Study I and II of the present investigation. The second section will review studies that have investigated the relationship between academic achievement and child psychopathology and is related to Study III.

Classification Perspectives

With the confusion surrounding the distinction between SED and social maladjustment, it is little wonder surveys have found that school psychologists are more comfortable assessing learning disabilities and mental retardation than behavior disorders or emotional disturbance (Gresham, 1985). The confusion originated when Congress adapted the EHA definition of SED from a study by Bower (1960) who had developed a screening definition for students having learning problems in school and requiring mental health services. Although the current EHA definition is almost an exact restatement,

Bower's original definition made no distinction between emotional disturbance and social maladjustment. This distinction, however, is found in the current federal definition.

Bower (1982) argues there is no justification for distinguishing between these groups because "the emotionally disturbed child as defined in the Bower study had to be socially maladjusted in the school" (p. 58).

Categorical Model

Much of the confusion and disagreement over what constitutes social maladjustment can be traced to different conceptualizations of the term. A review of the literature suggests three basic classification perspectives are commonly used by schools to distinguish between SED and social maladjusted children, the categorical model, the empirical/dimensional model, and the social systems model.

The categorical model incorporates a widely accepted psychiatric approach to the classification of childhood mental disorders and is based on the Diagnostic and Statistical Manual, Third Edition (DSM-III) (American Psychiatric Association, 1980) and more recently the Revised Edition, (DSM-III-R) (American Psychiatric Association, 1987). Developed by the American Psychiatric Association, DSM-III-R is a classification system which identifies discrete diagnostic groups by describing mental disorders for infants, children, and adults. Disorders are developmentally sequenced according to age of occurrence and are grouped into five general categories on the basis of area of disturbance: intellectual, developmental, behavioral, emotional, and physical. No standardized norms are provided.

Using the DSM-III-R system, social maladjustment is equated with conduct disorder and emotional disturbance is equated with personality and affective disorders. One of the most outspoken proponents for use of the DSM categorical system as a method of identifying social maladjustment in the schools is Jan Slenkovich, an attorney specializing in special education law. Slenkovich (1983) contends DSM-III diagnoses of conduct disorder, oppositional disorder, or antisocial personality disorder are indicative of social maladjustment according to the federal definition and cannot be used as placement criteria for the SED category. On the other hand, DSM-III emotional disturbance diagnoses of elective mutism, separation anxiety, or the affective disorders do qualify a child under SED criteria.

While the psychiatric classification approach simplifies decision making for SED eligibility by providing specific categories for eligibility, there are a number of problems with this approach. DSM-III has been criticized for poor reliability and validity, lacking a direct relationship between diagnostic label and treatment, and basing development of diagnostic categories on negotiation and polling of colleagues rather than empirical research (Achenbach, 1982; Hersen & Bellack, 1988; Quay, 1986b; Werry, Reeves, & Elkind, 1987). For example, studies have generally supported the DSM-III distinction between attention deficit disorder and attention deficit disorder with hyperactivity (Edelbrock, Costello, & Kessler, 1984; Quay, 1986a); however, the recent revision, DSM-III-R, has eliminated the attention deficit disorder diagnosis. Furthermore, studies by Achenbach and Edelbrock have found categories of characteristics behavior patterns may vary with the age and gender of the child (Achenbach & Edelbrock, 1978, 1983;

Edelbrock & Achenbach, 1980). DSM-III-R does not distinguish between diagnostic categories according to age and gender.

The relevance and appropriateness of using medical or psychiatric diagnostic categories for educational placement is also questionable based on results of several studies (Forness & Kavale, 1987). For example, Sinclair, Forness, and Alexson (1985) conducted a study of the relationship between psychiatric diagnosis and educational placement of 350 children and adolescents with school learning problems who were referred to a psychiatric outpatient clinic. The results indicate that only those psychiatric diagnoses specifically related to educational labels, e.g., specific developmental disorders, mental retardation, were significantly related to special education placements. Other less educationally specific diagnoses, however, could not reliably predict placement. Furthermore, of the 12 subjects diagnosed psychotic/schizophrenic, none were recommended for SED placement. The investigators concluded DSM-III diagnoses may not be a reliable or valid method for making eligibility decisions about placement in special education.

Empirical/Dimensional Model

The second perspective frequently used to conceptualize distinctions between SED and social maladjustment is the empirical/dimensional model and typically involves the use of behavior rating scales. This perspective is based on the assumption that, rather than the disorder being either present or absent as in the categorical system, psychopathology is continually present in all children and differs only in severity of symptoms. "This model assumes that symptoms form a dimension or continuum of

disorder and that all individuals have a place on this dimension; that is, all persons possess the disorder to a lesser or greater degree" (Quay, 1986a, p. 2).

In one of the earliest developmental studies of the empirical/dimensional approach, Peterson (1961) collected teacher ratings for 831 children, kindergarten through sixth grade. The items on the rating scales were chosen from 427 representative cases of child guidance-referred problems. Using factor analysis, Peterson isolated two independent factors based on the amount of variance extracted by successive centroid factors. He named these factors personality problems in which "impulses are evidently inhibited and the child suffers" (p. 206), and conduct problems in which "impulses are expressed and society suffers" (p. 206).

Multivariate statistical approaches using a wide variety of measures, raters, and clinical samples, have consistently supported Peterson's two-factor solution. The most common characteristics or item content associated with personality problems include anxiety, social withdrawal, depression, and psychosis. Behavior ratings scale items may include "feels inferior", "shy, bashful", "generally fearful; anxious", and "expresses strange, far fetched ideas". These characteristics have been subsumed under the broad classification of inhibition (Miller, 1967), internalizing (Achenbach, 1966), and overcontrolled (Achenbach & Edelbrock, 1978). In the present study, personality problems or emotional disturbance will be represented by ratings on two dimensions of the Revised Behavior Problems Checklist, anxiety-withdrawal and psychotic behavior (Quay & Peterson, 1987).

Deviant behavior characteristics commonly identified as conduct problems are fighting, destructiveness, disobedience, and non-compliance. Researchers have variously

named this broad dimension of conduct problems aggression (Miller, 1967), externalizing (Achenbach, 1966), and undercontrolled (Achenbach & Edelbrock, 1978). Other studies have found support for dividing this broad group of conduct problems into subgroups or subtypes. For example, Quay (1984, 1986a) found evidence from reviews of numerous multivariate studies and his own factor analysis for subtyping conduct problems as conduct disorders and socialized aggression. Conduct disorder problems are associated with aggression, non-compliance, and destructiveness. Problem characteristics of socialized aggression are school truancy, stealing, and loyalty to delinquent friends. The subgroups of conduct disorders have been named by other researchers as aggressors (Patterson, 1982), overt aggressive (Loeber & Schmalzing, 1985), and aggressive (Achenbach, 1978).

The socialized aggressive type has been named by other researchers as stealers (Patterson, 1982), covert aggressive (Loeber & Schmalzing, 1985) and delinquent (Achenbach, 1978). Achenbach further subdivided the broad group of conduct problems into hyperactive. These deviant behaviors are associated with problems of inattention, distractibility, and motor excess.

Although there is no general consensus, the empirical/dimensional model typically equates the two-factor solution conduct problems (externalizing) and personality problems (internalizing) with social maladjustment and serious emotional disturbance. Others have suggested social maladjustment may be more narrowly restricted to include only delinquents (Skiba & Grizzle, 1991).

Social Systems Model

A third approach conceptualizes the differences between SED and social maladjustment from a social system perspective. Classification criteria and terminology describing deviant behavior differ from one social system to another. Based on this perspective, SED and problems related to anxiety and depression are associated with the mental health system. On the other hand, social maladjustment and problems related to delinquency, truancy and antisocial behavior are associated with the juvenile justice system. Consequently, social maladjustment is not a mental health related term and should not be considered SED eligible. This model is more likely to represent the distinction between SED and social maladjustment than either of the other models. There is general consensus among historical reviews that Congress intended the exclusion of social maladjustment to apply to juvenile delinquents (Skiba & Grizzle, 1991).

Multiple Diagnoses

A fundamental problem confronting all three classification perspectives, the categorical model, empirical/dimensional model, and the social systems model, is the prevalence of a fairly large group of children who qualify for diagnoses involving both emotional and behavioral disorders. Findings from a number of studies using different conceptualizations and methods of classifying children have found SED children and socially maladjusted children frequently have multiple diagnoses which overlap categories. For example, in a study on the effectiveness of imipramine on prepubescent major depressive disorders, Puig-Antich (1982) unexpectedly found 37% of the boys

who qualified for a DSM-III diagnosis of major depression also qualified for a DSM-III diagnosis of conduct disorder. In a survey of 200 consecutively admitted incarcerated male juvenile offenders, Hollander and Turner (1985) found 34% of the population had symptoms which qualified for DSM-III schizotypal, paranoid, and borderline personality disorders. In a study pertinent to the present study, Chiles, Miller, and Cox (1980) found 23% of a sample of 120 delinquents qualified for major depression disorder using a structured psychiatric interview. The co-occurrence of affective symptoms, e.g., depression and withdrawal, with behavior problems have been reported by other researchers as well (Epanchin & Rennells, 1989; Friedrich, Urquiza, & Beilke, 1986; McConaughy, Achenbach, & Gent, 1988).

In a study using the dimensional approach to classify problem behaviors, Gilliam and Scott (1987) divided 82 incarcerated juvenile delinquents into two groups. One group included 60 offenders diagnosed emotionally disturbed by correctional psychologists and the other group included 22 offenders not diagnosed with emotional disturbance but described by teachers as having behavior problems. Total teacher ratings on the Revised Behavior Problem Checklist did not differ between groups, suggesting no differences in severity of behavior problems. Comparisons between specific dimensions of the scale resulted in the behavior problem group having significantly greater problems on the conduct disorder and attention problem dimensions compared to the emotional disturbed group, but fewer problems on the socialized aggression dimension. On the anxiety-withdrawal dimension, no group differences were found suggesting that the emotionally disturbed delinquent group and behaviorally disordered delinquent group exhibit equally anxious and socially withdrawing behavior.

The results of the studies on multiple diagnoses suggest that within populations of emotionally disturbed children and delinquent children, there is much overlap of emotional and behavioral problems. A question relevant to the present study, however, is to what extent this overlap of emotional and behavioral problems exists when comparing deviant behavioral characteristics between populations of emotionally disturbed children and delinquent children.

In two studies pertinent to the overlap problem of whether emotional disturbance and behavior disordered children differ in degree and type of psychopathology, results are contradictory. Westendorp, Brink, Roberson, and Oritz (1986) examined group differences on various measures of personality, personal adjustment, and academic achievement between adolescents placed in the mental health system, e.g., hospitals, outpatient clinics, and adolescents placed by the juvenile justice system, e.g., rehabilitation programs, probation. Analysis of variance revealed the mental health group scored significantly higher on the depression, hysteria, and schizophrenic scales of the Minnesota Multiphasic Personality Inventory (MMPI). These results suggest emotional variables may differentiate between children placed within the mental health system and juvenile justice system.

Contradictory findings were reported in a study comparing violent and assaultive children with a sample of mental health-referred children. Curry, Pelissier, Woodford, and Lochman (1988) found 416 adolescent boys were rated significantly higher than the normative mental health sample of 250 adolescent boys on the Child Behavior Checklist for the broad-band externalizing dimension and the narrow-band scales of delinquency, depression, and hostile-withdrawal. No significant group differences were found on the

internalizing dimension, however, suggesting violent and assaultive children may be as emotionally impaired as the mental health-referred group.

In summary, results of multiple diagnoses studies generally suggest that large numbers of children experience both behavioral and emotional problems regardless of whether these children are classified emotionally disturbed or behavior disordered. Findings, however, are less clear whether the emotional problems experienced by behavior disordered children are as significant as emotional problems experienced by emotionally disturbed children. The present study will attempt to further clarify differences between emotional and behavioral characteristics by comparing SED children with socially maladjusted children.

Academic Achievement

Adverse educational performance is currently a fundamental requirement for eligibility under the SED definition. Despite efforts by a growing number of professionals to expand the meaning, the term "adverse educational performance" has been narrowly interpreted to mean poor academic functioning rather than poor personal, social, or adaptive functioning (Forness & Knitzer, 1992).

In the following discussion, studies will be reviewed which investigated differences in academic achievement among emotionally disturbed and socially maladjusted children. Taking the perspective that children who are socially maladjusted make up a heterogeneous group, studies will be reviewed which investigated the academic performance of children with conduct disorders, attention deficit/hyperactivity disorders, and delinquency. Although the term behavior disorder is also frequently applied to

children with social maladjustment, studies involving these children are not reviewed here due to the lack of clear criteria for sample selection. This problem is particularly relevant in school studies using subjects placed in special education classes for SED (Epstein & Cullinan, 1983; Scruggs & Mastropieri, 1986). State and local definitions for classifying and placing SED children in these studies do not exclude behavior disordered children from the SED category.

Studies were also reviewed that investigated the relationship between emotional disturbance and academic achievement and included children characterized as having internalizing, affective disorders such as depression, anxiety, and social withdrawal.

Academic Achievement and Social Maladjustment

Research investigating the academic achievement of juvenile delinquents has established a strong relationship between delinquency and school related difficulties (see Murphy, 1986, for review). For example, Loeber and Dishion (1983) found that by the end of elementary school, low achievement, low vocabulary, and poor verbal reasoning are among the best predictors of later delinquency. During adolescence, low grade point average and school retardation are the best predictors. Delinquent youths are also more likely to have experienced retention in early grades and exhibited early failure in academic areas (Meltzer, Levine, Karnishi, Palfrey, & Clarke, 1984). Incidence of learning disabilities is reported higher among juvenile delinquents than the normal population (Reiter, 1982; Robbins, Beck, Pries, Jacobs, & Smith, 1983) and may be as high as 19% (Hollander & Turner, 1985). Studies reviewed by Silberberg and Silberberg

(1979) involving several thousand male and female children consistently showed a strong association between poor reading attainment and antisocial disorders.

Although children with attention deficit, hyperactivity disorder (ADHD) are not commonly considered socially maladjusted, there is a significant body of research to suggest that ADHD is highly correlated with conduct disorder/aggression (Hinshaw, 1987; Loney, Langhorne, & Paternite, 1978; Sandberg, Rutter, & Taylor, 1978); ADHD may be a subtype of conduct problems (Achenbach, 1978); and ADHD children may be at increased risk for delinquency and incarceration (Satterfield, Hoppe, & Schell, 1982). The principle symptom cluster exhibited by these children includes inattention, poor impulse control, and excess motor activity.

Numerous studies have demonstrated that children with ADHD have cognitive and academic achievement difficulties (see Frick & Lahey, 1991, for review). Cantwell and Satterfield (1978) examined the academic achievement of a group of 94 children diagnosed ADHD and a matched group (age, sex, race, IQ) of 54 normal public school children. A significantly greater proportion of the ADHD group were underachieving in reading, spelling, and arithmetic. They also tended to be behind in more school subjects and more grade levels than the control group.

Recently, the U. S. Department of Education (1991) acknowledged the link between ADHD and learning problems and recognized the need to provide special education services to these children. In a memo to state education coordinators, it was recommended that children with ADHD be found eligible for special educational services under the EHA category "other health impaired."

Studies comparing the academic achievement of ADHD children and children with conduct disorders, have found ADHD children exhibit greater academic deficits. For example, Stewart and Behar (1983) found hospitalized boys diagnosed with both conduct disorder and ADHD had significantly more problems related to speech defects, expressive language delay, and attention problems than boys diagnosed with conduct disorder alone. In a longitudinal study of 135 ADHD boys, Loney, Kramer, and Milich (1981) found childhood hyperactivity (ADHD) was a better predictor of academic problems than childhood aggression.

Academic Achievement and Emotional Disturbance

Studies addressing the relationship between academic achievement and emotional disturbance have identified a number of diagnostic groups and internalizing problem characteristics, e.g., attention problems, anxiety, withdrawal, which may be related to academic problems. In a comprehensive review of 58 studies, the best single predictor of reading problems was the behavior-emotional variable related to attention/distractibility and internalizing problems (Horn & Packard, 1985). Less significant school achievement predictors included language development, sensory-motor ability, emotional-behavioral problems, neurological impairments, intellectual functioning, and teacher ratings of overall performance.

Findings from other studies also suggest a relationship may exist between academic achievement problems and internalizing characteristics found in children with specific attention deficits. For example, Edelbrock, Costello, and Kessler (1984) found boys diagnosed attention disorder (ADD) were less aggressive, less happy, and more socially

withdrawn than boys diagnosed attention deficit disorder with hyperactivity (ADD/W) and a clinic control group. The ADD boys were rated to have more current school performance problems than either group. In addition, 71.4% of the ADD group had repeated a grade compared to 16.7% of the ADD/W group, a difference which is statistically significant. Similarly, Lahey, Schaughency, Strauss, and Frame (1984) also found a group of ADD children were rated by teachers significantly more anxious, shy, and socially withdrawn and significantly lower in academic performance compared to children diagnosed ADD/W and a control group.

Although these studies tend to support the dissimilarity of the diagnostic groups, ADD and ADD/W, the question remains whether specific internalizing characteristics are directly related to academic problems. This question is addressed in a study by Lahey, Green, and Forman (1980). In their study 109 third grade children were rated by their teachers on the Conners Teacher Rating Scale which measures the dimensions, conduct problems, inattention-passivity, tension-anxiety, hyperactivity, and sociability. Multiple regression analysis was calculated to determine which of the problem behavior dimensions explained significant components of variance in the prediction of various criteria variables, e.g., on-task behavior, peer acceptance, and academic achievement.

Results pertinent to the present study were that test performance in reading, mathematics, and language, was significantly correlated with teacher rated problems on the inattention-passivity dimension producing correlations of $-.45$, $-.43$, and $-.41$, respectively. The emotional dimension, tension-anxiety, however, did not significantly correlate with test scores on reading, mathematics, and language with correlations of $-.03$, $.06$, and $.07$, respectively. Thus, the poor academic achievement of ADD children

found in the previous two studies may be due to their inattention and sluggishness rather than to their social withdrawal or anxiety.

In studies examining the academic performance of children being served in special education programs for SED, results are mixed. Jennings, Mendelsohn, May, and Brown (1988) found no difference in mean achievement among 130 children in grades 1 to 5 who were diagnosed using DSM-III criteria as conduct disorder, oppositional disorder, ADD and ADD/W, and depressive/anxious disorder. The mean standard achievement score for each group was conduct disorder, 87.7, oppositional disorder, 88.8, ADD and ADD/W, 85.9, and depressive/anxious disorder, 92.4. On the other hand, Kauffman, Cullinan, and Epstein (1987) found under achievement in reading was significantly related to teacher rated behaviors of aggression, defiance of authority, and violations of social rules. Adequate reading was related to teacher rated behaviors involving internalizing emotional problems and social withdrawal.

These contradictory findings may be a result of methodological problems related to the selection of these samples. Various authors have suggested that children in SED classrooms differ in a number of characteristics due to wide disparities among state and local procedures for determining eligibility for placement (McGinnis, Kiraly, & Smith, 1984; Tallmadge, Gamel, Munson, & Hanley, 1985).

More consistent results have been obtained from studies on clinic-referred samples which have classified emotional and behavioral problems using DSM-III criteria and/or behavior rating scales from parents and teachers. These studies have generally found children with conduct problems are more at risk for academic problems than children with emotional disturbance. For example, in a study (Reeves, Werry, Elkind, &

Zametkin, 1987) examining the external validity of DSM-III major diagnostic categories, 95 children ages 6 to 13 years were diagnosed anxiety disorder, ADHD, and ADHD plus conduct disorder. Each group was compared to a matched control group (age, sex, ability, SES), on numerous variables, e.g., family characteristics, neurodevelopmental factors, academic achievement.

Results indicated the diagnostic groups ADHD and ADHD plus conduct disorder significantly differed from the anxiety group and their respective control groups in teacher ratings of poor reading, writing, and mathematics, and classroom performance below estimated ability. Although the anxiety group did not differ from their control group in writing ability, they still showed a trend to be inferior to normal subjects in reading and mathematics ($p < .10$). These findings are consistent with other studies (see Werry, Reeves, & Elkind, 1987, for review).

Studies employing behavior rating scales have also found significant differences between emotional and behavioral problems related to academic performance. Edelbrock and Achenbach (1980) found 1050 boys aged 12 to 16 years who exhibited externalizing behavior problems, e.g., aggression, hyperactivity, delinquency, had significantly more parent-rated school performance problems than boys of the same age who exhibited internalizing problems. Furthermore, McConaughy, Achenbach, and Gent (1988) found externalizers scores more poorly on the mathematics and reading recognition subtests of the Peabody Individual Achievement Test than internalizers. No differences were found between group on reading comprehension, spelling, and total achievement.

Differences in academic achievement among specific profile types of externalizers and internalizers were also investigated. Boys classified with the externalizing profile

type, hyperactivity (ADHD), were found to score significantly lower than the internalizer type, depression-social withdrawal-aggression on reading comprehension. The hyperactive profile type also received the lowest school performance ratings from teachers and parents among all profile types. Furthermore, the externalizing profile type, delinquent, scored significantly lower than the internalizing profile, schizo-anxious (emotional disturbance) on spelling.

Summary

The federal mandate to exclude socially maladjusted children from classification as SED has forced school psychologists and special education eligibility team members to carefully consider which characteristics in children distinguish SED from social maladjustment. As presented in the first section, schools have generally adopted three classification perspectives to assist in the decision-making process. No one classification approach appears to be better suited to distinguish between SED and socially maladjusted children, however, considering the studies on multiple diagnosis. Results from studies reviewed suggest there are significant numbers of children within specific groups, e.g., emotionally disturbed children and juvenile delinquents, who evidence both emotional and behavioral problems. The focus of Study I and Study II in the present investigation will be to further identify differences between emotionally disturbed children and juvenile delinquents along two emotional dimensions and four behavioral dimensions.

Studies reviewed in the second section of this chapter, suggest that the academic performance of children variously diagnosed as anxious, depressed, ADHD, delinquent, and conduct disorder, is significantly below age/grade expectations. Attention

problems were found to be related to both emotional and behavioral problems.

Surprisingly, children with emotional problems (internalizing disorders) tended to perform higher on academic achievement tests and teacher ratings of academic achievement than behavior disordered children. Children with ADHD were consistently found to be academically impaired. Study III in the present investigation will further investigate differences in academic achievement between children with SED and social maladjustment.

CHAPTER III

METHODOLOGY

Introduction

This chapter presents the methodology used to conduct the present study. Topics to be discussed include the characteristics of the sample and the instruments and procedures used in gathering and analyzing the data.

Subjects

Subjects were male children recruited from two state-operated institutions. One group of subjects was obtained from an 80-bed inpatient psychiatric treatment center. Participants ranged in age from 13 to 17 years. Subjects included both voluntary and court-ordered admission for treatment of severe emotional disturbance.

The second group of subjects were recruited from a 152-bed juvenile correction center which serves males and females between the ages of 14 to 18 years old. Subjects in this group are adjudicated as delinquent. Criterion for selection were based on each subject having a full scale IQ above 60 and complete records. All participants in this study were also required to give signed voluntary consent.

Demographic data are presented in Table I. Overall, SED boys ranged in age from ages 13 to 17 years ($M = 15.4$, $SD = 1.3$) and were predominantly white. Socially

maladjusted boys ranged in age from ages 14 to 18 years ($M = 16.6$, $SD = 1.0$) and appeared to be equally representative of white and black racial groups.

TABLE I
CHARACTERISTICS OF THE SAMPLE

	Seriously Emotionally Disturbed N = 28		Socially Maladjusted N = 96	
	M	SD	M	SD
Age	15.4	(1.3)	16.6	(1.0)
Cognitive Functioning				
VIQ a	83.67	(13.63)	83.68	(10.83)
PIQ b	92.05	(11.32)	93.35	(11.65)
FSIQ c	86.67	(11.00)	87.41	(10.78)
Racial Group				
White	75%		44%	
Black	14%		45%	
Other	11%		11%	

a VIQ = Verbal Intelligence Quotient

b PIQ = Performance Intelligence Quotient

c FSIQ = Full Scale Intelligence Quotient

The rationale for selection of these subjects is based on the following: 1) Intact groups were chosen because they represent socially valid methods for classifying seriously emotionally disturbed and socially maladjusted children; 2) These groups represent a broad range of child disorders and insure variability of emotional and behavioral problems; and 3) Due to the fact that characteristic differences between normal and disordered groups are fairly well established, it is recommended when investigating deviant behavior that comparisons between different types of disorders be made (Werry, Reeves, & Elkind, 1987).

Instrumentation

The Revised Behavior Problem Checklist (RBPC) (Quay & Peterson, 1987) was completed by a teacher and staff person most familiar with the subject. Academic achievement test scores and demographic data were also collected from the subject's file.

The RBPC is an 89-item behavior rating scale for children. It is designed for children ages 5 to 18 years and can be completed by various raters, e.g., parents, teachers, and staff, in various situations, e.g., home, school, and hospital. Normative data are provided in the Manual which covers a wide range of samples, raters, and placements. This scale is a revision of an earlier version, the Behavior Problem Checklist (Quay & Peterson, 1975) developed from factor analytic studies of deviant behavior in children and adolescents. The items were derived from extensive reviews of case histories of clinic-referred children. The RBPC includes four major dimensions of child psychopathology: conduct disorder (CD), socialized aggression (SA), attention problems (AP), anxiety-withdrawal (AW), and two minor dimensions: psychotic

behavior (PB) and motor excess (ME). Items are weighted by scores of either zero (does not constitute a problem, not observed or no knowledge); one (mild problem); or two (severe problem). Normative data are available reflecting a wide range of samples, sample sizes, rater types, and age groups.

The RBPC Manual (Quay & Peterson, 1987) provides results from a number of reliability studies. For example, in a sample of 172 children placed in a special school for the developmentally disabled, inter-rater reliability values among teachers for the four major RBPC dimensions of conduct disorder, socialized aggression, attention problems, and anxiety-withdrawal were .85, .75, .53, and .52, respectively. Inter-rater reliability values among teachers for the two minor RBPC dimensions psychotic behavior and motor excess were .58 and .58. Test-retest reliability was computed for a sample of 149 children in grades one through six over a two month period. The two highest correlations of test-retest reliability were on the RBPC dimensions of attention problems (.83) and anxiety-withdrawal (.79). Moderate correlations were found on the dimensions motor excess (.68), conduct disorder (.63), and psychotic problems (.61). The lowest stability correlation was .49 found for the socialized aggression dimension.

Various studies establishing concurrent, construct, and predictive validity of the RBPC are presented in the RBPC Manual (Quay & Peterson, 1987). For example, a study establishing the concurrent validity of the scales compared a group of clinic-referred boys and girls to a group of normal boys and girls ages 6 to 12 years old. Results indicate the mean scale scores for the clinic-referred group were significantly higher than the normal group on all six scales. A discriminant function correctly classified 85.5% of all male cases based on the six dimensions. The results of these and

other studies support the use of the Revised Behavior Problem Checklist as a reliable and valid measure of child psychopathology which has been reviewed favorably by numerous investigators (Hinshaw, 1987; Sattler, 1988).

The Woodcock-Johnson Psycho-educational Battery (Woodcock & Johnson, 1977) consists of three parts: Tests of Cognitive Ability, Tests of Achievement, and Tests of Interest Level. Results from the Tests of Achievement were used to measure three areas of academic achievement. The reading cluster score is calculated from scores on the subtest letter-word identification, word attack, and passage comprehension. The mathematics cluster score is calculated from scores on the subtests calculation and applied problems. The written language cluster score is calculated from scores on the subtests dictation and proofing. Each cluster score represents a standard score with a mean of 100 and standard deviation of 15.

The Woodcock-Johnson is a well recognized, individually administered battery of tests used for the comprehensive assessment of psycho-educational abilities of individuals from 3 years of age through adulthood and has gained popularity (Phelps & Rosso, 1985). The Battery was standardized on 4,732 individuals from 3 years through 80 years of age chosen to be representative of the population according to gender, race, occupational status, and geographical region (Sattler, 1988; Woodcock & Johnson, 1977). Kaufman and O'Neal (cited in Rosso & Phelps, 1988) performed a factor analysis of the Woodcock-Johnson using the school-aged population of the standardization sample. Of the three significant factors identified, a school factor emerged and included all seven subtests of the Tests of Achievement. The other two factors identified were a reasoning/quantitative factor and a verbal/information factor.

In a recent review, Sattler (1988) found the Woodcock-Johnson Tests of Achievement to have reliabilities ranging from .80 to .90. In work done by McGrew and others (see McGrew & Pehl, 1988, for review), they suggest, "The concurrent validity of the Woodcock-Johnson Tests of Achievement have been established with a number of instruments (e.g., Wide Range Achievement Tests, Peabody Individual Achievement Test) in a variety of samples" (p. 275). In a validity study of adjudicated behavior disordered adolescents, Phelps and Rosso (1985) found correlations between the cluster scores of reading, mathematics, and written language and WISC-R Verbal IQ to be .78, .78, and .81, respectively; between WISC-R Performance IQ to be .48, .53, and .52 respectively; and between WISC-R Full Scale IQ to be .70, .73, and .74 respectively. These results suggest the Woodcock-Johnson Psycho-educational Battery, Part II, is a valid and reliable measure of academic achievement.

In addition to behavior rating scales and academic achievement test scores, demographic data was collected on each child regarding age, ethnic background, and intellectual ability.

Procedures

For each subject the teacher and staff person most familiar with the subject was asked to complete the RBPC. The raters were instructed to read the scoring directions on the form. Tests of Achievement cluster scores from the Woodcock-Johnson Psycho-educational Battery in reading, mathematics and written language were collected from the record of each subject. These scores are the result of a battery of tests routinely

administered by certified school psychometrists or psychologists to all new residents admitted to the psychiatric hospital and the corrections center.

Ethical Considerations

The planning and implementation of this research and the treatment of the participants in this study is in accordance with the ethical standards of the American Psychological Association (see Principle B, Assessment Techniques and Principle 9, Research with Human Participants, in the Ethical Principles of Psychologists, American Psychological Association, 1981). Subjects in this study are considered to be at minimal risk of psychological or physical injury from the research procedures. Subjects' behaviors were not manipulated in any way nor were subjects placed under stress at any time. Informed consent for participation was obtained in writing from each subject and they were informed they could withdraw from the study at any time without penalty (see Appendix A for consent form). Approval for this study was granted by the Oklahoma State University Institutional Review Board (see Appendix B).

Statistical Procedures

The purpose of this research is to investigate differences between selected emotional and behavioral problem characteristics and between selected measures of academic achievement of seriously emotionally disturbed and socially maladjusted boys. This is an exploratory investigation and involves three separate studies.

The first study will investigate the differences among groups along two dimensions of emotional disturbance, anxiety-withdrawal, and psychotic behavior. Two analyses will be calculated using a 2 x 2 mixed design, analysis of variance with teacher-staff

ratings representing the repeated measure. One classification variable is type of placement and has two levels, psychiatric facility placement of SED children and correctional facility placement of socially maladjusted children. The other classification variables is type of rater and also has two levels, teacher and staff. In the first analysis the dependent variable is measured by a rating on the RBPC anxiety-withdrawal dimension. In the second analysis the dependent variables is measured by a rating on the psychotic behavior dimension.

The statistical analyses are based on a fixed-effects model. Since the primary research interests of Study I focus on the between groups differences, both analyses will test the between-group main effects by comparing the marginal means. Within-groups main effects and interaction effects are of secondary interest but will also be tested. The test statistic is the F-test and the level of significance for rejecting the null hypotheses is an alpha of .05. Dunn's procedure for apportioning experimentwise error rate equally among the two analyses will be performed in order to protect the researcher from the increased probability of making at least one Type I error. The adjusted alpha for both analysis using the F-test is alpha of $.05/2$ or .025. In order to interpret a significant interaction effect, should one be identified, and further control for error rate, Newman-Keuls' test for score data will be calculated with alpha of .01 to test the interaction effects since it is appropriate for mixed designs.

The second study will investigate the differences among groups along four dimensions of behavior problems, conduct disorder, socialized aggression, attention problems, and motor excess. Four analyses were calculated using a 2 x 2 mixed design, analysis of variance with teacher and staff ratings representing the repeated measures.

One classification variable is type of placement and has two levels, psychiatric facility placement of SED children and correctional facility placement of socially maladjusted children. The other classification variable is type of rater and also has two levels, teacher and staff. In the first analysis the dependent variable is measured by rating on the conduct disorder dimension of the RBPC. In the second, third, and fourth analyses the dependent variable is measured by rating on the RBPC dimensions socialized aggression, attention problems and motor excess, respectively.

The statistical analyses used in Study II is based on a fixed-effects model. Since the primary research interests of Study II focus on the between groups differences, all four analyses will test the between-group main effects by comparing the marginal means. Within-groups main effects and interaction effects are of secondary interest but will also be tested. The test statistic is the F-test and the level of significance for rejecting the null hypotheses is an alpha of .05. Dunn's procedure for apportioning experimentwise error rate equally among the four analyses will be performed in order to protect the research from the increased probability of making a Type I error. The adjusted alpha for all analyses using the F-test is an alpha of $.05/4$ or .0125. In order to interpret a significant interaction effect, should one be identified, and to further control for error rate, Newman-Keuls' test for score data will be calculated with alpha of .01 to test the interaction effects since it is appropriate for mixed designs.

Study III investigates differences in academic achievement between groups. The statistical analyses of the three hypotheses is based on a fixed-effects model. The test statistic is the two-tailed t-test for differences between two independent means. The level of significance is an alpha of .05. Due to the exploratory nature of this study and the use

of multiple comparisons between means, there is an increased probability of making at last one Type I error. The Dunn's procedure for distributing experimentwise error rate among the comparisons to be made is an appropriate method when the contrasts are few in number and determined a priori (Keppel, 1973). The adjusted alpha for each of the three comparisons is an alpha of $.05/3$ or $.017$.

Summary

Subjects in this investigation were males recruited from two state-operated institutions. One group included individuals with emotional disturbance hospitalized in a psychiatric facility. The second group included juvenile delinquents incarcerated in a correction facility. Subjects were included in the sample provided they had a full scale IQ above 69, their files contained complete records, and they had signed a consent form.

The RBPC was used as a measure of deviant behavior. It is a behavior rating scale consisting of four major dimensions of child psychopathology (conduct disorder, socialized aggression, attention problems, anxiety-withdrawal) and two minor dimensions (psychotic behavior and motor excess). Each subject was rated on the six dimensions by a teacher and staff person most familiar with the subject. The Revised Behavior Problems Checklist is a well recognized, valid, and reliable measure of child psychopathology.

Cluster scores on the reading, mathematics, and written language test from the Woodcock-Johnson Psycho-educational Battery were used as measures of academic achievement and were collected from the subject's file. These tests were administered to the subject during the initial admissions process at each facility. The Woodcock-Johnson

Psycho-educational Battery is reported to be a valid and reliable measure of academic achievement.

Three separate studies were designed to investigate the differences between boys with SED and boys with social maladjustment. Study I and II each involved a 2 x 2 mixed design, analysis of variance with type of rater (teacher and staff) representing the repeated measures variable, and type of placement (psychiatric facility and correctional facility) representing the between groups variable. Study I investigated differences between the SED group and the socially maladjusted group along two dimensions of emotional disturbance, anxiety-withdrawal and psychotic behavior. Study II investigated differences between groups of subjects along four dimensions of behavior problems, conduct disorder, socialized aggression, attention problems, and motor excess.

Finally, Study III investigated differences between academic achievement of SED and socially maladjusted boys. The test of significance in this study was the two-tailed t-test for differences between two independent means. Due to the exploratory nature of this investigation, a conservative approach to significance testing was adopted using Dunn's procedure.

CHAPTER IV

RESULTS

Due to the exploratory nature of the current investigation, three separate studies were designed. The results of each study are presented in the following sections.

Study I

Rating differences on the Revised Behavior Problem Checklist (RBPC) between SED and socially maladjusted boys on the emotional disturbance dimensions, anxiety-withdrawal and psychotic behavior were investigated in Study I. Furthermore, differences between ratings done by teachers and ratings done by staff were investigated.

Anxiety-Withdrawal Dimension

Descriptive statistics for the anxiety-withdrawal dimension utilized in the 2 x 2 (type of placement by type of rater) repeated-measures, analysis of variance are reported in Table II. The dependent variable is rating score by teachers and staff on the RBPC anxiety-withdrawal dimension. Neither between-group main effects ($F = .08$, $df = 1/122$, $p = .776$) nor interaction effects ($F = .00$, $df = 1/122$, $p = .968$) were significant. Null hypotheses 1 and 3 failed to be rejected. The repeated-measures effect, type of rater, however, was significant ($F = 18.08$, $df = 1/122$, $p < .0001$). Null hypothesis 2 was rejected. Teacher ratings on the RBPC dimension anxiety-withdrawal were significantly less severe than staff ratings.

TABLE II
RAW SCORE CELL MEANS, MARGINAL MEANS, AND STANDARD
DEVIATIONS FOR THE RBPC ANXIETY-
WITHDRAWAL DIMENSIONS

Type Placement	N	<u>Type of Rater</u>				Marginal Mean	
		Teacher		Staff		M	SD
		M	SD	M	SD		
SED	28	6.96	(4.62)	9.93	(5.40)	8.45	(5.20)
SM	96	6.71	(5.03)	9.73	(4.84)	8.22	(5.15)
Marginal Mean	124	6.77	(4.92)	9.77	(4.95)		

Note. High scores indicate more problems, SED = Seriously emotionally disturbed, SM = Socially maladjustment.

Psychotic Behavior Dimension

Descriptive statistics for the variable of RBPC psychotic behavior dimension utilized in the second analysis involving a 2 x 2 repeated-measures, analysis of variance calculated using ratings by teachers and staff are reported in Table III. No between-group effects ($F = .95$, $df = 1/122$, $p = .332$) or interaction effects ($F = 1.75$, $df = 1/122$, $p = .188$) were found significant. Null hypotheses 4 and 6 failed to be rejected. Type of rater was again significant ($F = 17.17$, $df = 1/122$, $p < .0001$); therefore, null hypothesis 5 was rejected. Teacher ratings on the RBPC dimension psychotic behavior indicate children in this sample had fewer problems than did ratings by staff.

TABLE III
 RAW SCORE CELL MEANS, MARGINAL MEANS, AND
 STANDARD DEVIATIONS FOR THE RBPC
 PSYCHOTIC BEHAVIOR DIMENSION

Type Placement	N	<u>Type of Rater</u>				Marginal Mean	
		Teacher		Staff		M	SD
		M	SD	M	SD		
SED	28	1.46	(2.44)	3.32	(3.56)	2.39	(3.17)
SM	96	1.49	(1.89)	2.45	(2.85)	1.97	(2.46)
Marginal Mean	124	1.48	(2.02)	2.64	(3.03)		

Note. High scores indicate more problems, SED = Seriously emotionally disturbed, SM = Socially maladjustment.

In summary, the results from Study I indicate SED boys and socially maladjusted boys do not differ in ratings of severity of either type of emotional problem, anxiety-withdrawal or psychotic behavior. Teachers, however, tended to rate this sample as having fewer emotional problems than did staff.

Study II

This study investigated RBPC rating differences between SED and socially maladjusted boys on four dimensions of behavior problems: conduct disorder, socialized aggression, attention problems, and motor excess. Differences between ratings done by teachers and ratings done by staff were also investigated.

Conduct Disorder Dimension

The first analysis involved a 2 x 2 (type of placement by type of rater) repeated-measures, analysis of variance of ratings by teachers and staff on the RBPC conduct disorder dimension as the dependent variable. Descriptive statistics calculated for the dependent variable involved in this analysis are reported in Table IV. Null Hypotheses 7 and 9 failed to be rejected. Between-group effects ($F = 2.47$, $df = 1/122$, $p = .118$) and interaction effects ($F = 4.10$, $df = 1/122$, $p = .045$) were not significant. The repeated-measures effect, type of rater, however, was significant ($F = 45.69$, $df = 1/122$, $p < .0001$). Therefore, null hypothesis 8 was rejected. Boys were perceived by teachers to have fewer conduct disorder related problems than did the same boys when rated by staff.

Socialized Aggression Dimension

Descriptive statistics for the dependent variable involved in the second analysis utilizing a 2 x 2 repeated-measures, analysis of variance are reported in Table V. The dependent variable is rating score by teachers and staff on the RBPC socialized aggression dimension. A significant between-group main effect was found ($F = 12.41$, $df = 1/122$, $p = .001$). Null hypothesis 10 was rejected. The results suggest socially maladjusted boys have greater problems related to socialized aggression than SED boys. The repeated measures main effect was also significant ($F = 32.61$, $df = 1/122$, $p < .0001$). Null hypothesis 11 was rejected suggesting teacher ratings were again found to be significantly below staff ratings on the socialized aggression dimension. The

interaction effect was not significant ($F = 3.27$, $df = 1/122$, $p = .073$); therefore, null hypothesis 12 failed to be rejected.

Attention Problems Dimension

Descriptive statistics calculated for the dependent variable involved in the third analysis which uses a 2 x 2 repeated-measures, analysis of variance are reported in Table VI. Ratings by teachers and staff on the RBPC attention problems dimension are the dependent variables. The main effect of type of placement was not significant ($F = 3.07$, $df = 1/122$, $p = .082$), but there was a significant difference between type of rater ($F = 8.69$, $df = 1/122$, $p = .004$). Teachers rated boys as having fewer attention problems than did staff. No interaction effects were found ($F = 2.59$, $df = 1/122$, $p = .110$). Null hypothesis 14 was rejected, whereas null hypotheses 13 and 15 were not rejected.

Motor Excess Dimension

In the final analysis of Study II, a 2 x 2 repeated-measures, analysis of variance was performed using ratings by teachers and staff on the RBPC motor excess dimension as the dependent variable. Descriptive statistics calculated for the RBPC motor excess dimension are reported in Table VII. No significant between-group differences were found in the analysis comparing ratings of motor excess for SED and social maladjusted children ($F = .01$, $df = 1/122$, $p = .934$). Null hypothesis 16 was not rejected. A significant repeated-measures effect was found for type of rater with teachers rating fewer problems in motor excess than did staff ($F = 13.07$, $df = 1/122$, $p < .0001$). Null

TABLE IV
 RAW SCORE CELL MEANS, MARGINAL MEANS, AND
 STANDARD DEVIATIONS FOR THE RBPC
 CONDUCT DISORDER DIMENSION

Type Placement	N	Type of Rater				Marginal Mean	
		Teacher		Staff		M	SD
		M	SD	M	SD		
SED	28	13.75	(9.89)	24.36	(11.22)	19.05	(11.77)
SM	96	13.04	(11.06)	18.76	(10.90)	15.90	(11.32)
Marginal Mean	124	13.20	(10.77)	20.02	(11.18)		

Note. High scores indicate more problems, SED = Seriously emotionally disturbed, SM = Socially maladjustment.

TABLE V
 RAW SCORE CELL MEANS, MARGINAL MEANS, AND STANDARD
 DEVIATIONS FOR THE RBPC SOCIALIZED
 AGGRESSION DIMENSION

Type Placement	N	Type of Rater				Marginal Mean	
		Teacher		Staff		M	SD
		M	SD	M	SD		
SED	28	6.14	(6.94)	10.29	(7.25)	8.21	(7.34)
SM	96	9.69	(8.51)	17.67	(9.77)	13.68	(9.97)
Marginal Mean	124	8.89	(8.29)	16.00	(9.74)		

Note. High scores indicate more problems, SED = Seriously emotionally disturbed, SM = Socially maladjustment.

hypotheses 17 and 18 were rejected. An interaction effect was also found ($F = 7.42$, $df = 1/122$, $p = .007$) and a graph of the cell means is depicted in Figure 1. Post hoc comparisons calculated using Newman-Keuls' test indicated teachers rated SED boys as having fewer problems related to motor excess than staff ($p = .01$). No other comparisons were significant.

TABLE VI
RAW SCORE CELL MEANS, MARGINAL MEANS, AND
STANDARD DEVIATIONS FOR THE RBPC
ATTENTION PROBLEMS DIMENSION

Type Placement	N	Type of Rater				Marginal Mean	
		Teacher		Staff		M	SD
		M	SD	M	SD		
SED	28	10.43	(5.15)	14.68	(8.20)	12.55	(7.11)
SM	96	9.68	(8.15)	10.93	(6.88)	10.30	(7.55)
Marginal Mean	124	9.85	(7.56)	11.77	(7.34)		

Note. High scores indicate more problems, SED = Seriously emotionally disturbed, SM = Socially maladjustment.

TABLE VII
 RAW SCORE CELL MEANS, MARGINAL MEANS, AND
 STANDARD DEVIATIONS FOR THE RBPC
 MOTOR EXCESS DIMENSION

Type Placement	N	Type of Rater				Marginal Mean	
		Teacher		Staff		M	SD
		M	SD	M	SD		
SED	28	2.43	(2.53)	4.50	(3.28)	3.46	(3.09)
SM	96	3.36	(3.10)	3.66	(2.92)	3.51	(3.01)
Marginal Mean	124	3.15	(3.00)	3.85	(3.01)		

Note. High scores indicate more problems, SED = Seriously emotionally disturbed, SM = Socially maladjustment.

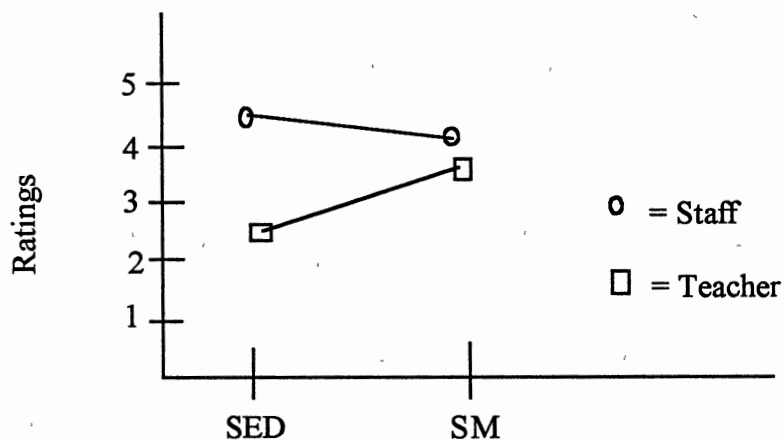


Figure 1. Cell Means of Staff and Teacher Ratings on the RBPC Dimension Motor Excess (SED = Seriously emotionally disturbed, n = 28; SM = Socially maladjustment, n = 96).

Study III

This study investigated differences between academic achievement, as measured by the Woodcock-Johnson, of SED boys and the socially maladjusted boys. The two-tailed, t-test for differences between two independent means was computed using the Woodcock-Johnson cluster scores for reading, mathematics, and written language. Applying an alpha of .017 calculated using Dunn's procedure, no significant group differences were found for reading ($t = 1.73$, $df = 39.39$, $p = .092$); mathematics ($t = .37$, $df = 37.36$, $p = .714$); or written language ($t = .35$, $df = 34.59$, $p = .730$). Therefore, null hypotheses 19, 20, and 21 were not rejected. Descriptive statistics for the three dependent variables are presented in Table VIII. Mean scores for both groups were in the low average range. Except for the reading score of the socially maladjusted group, all scores were more than one standard deviation below the standardization sample mean. These scores represent the lowest 16% of the normative sample.

TABLE VIII

ACADEMIC ACHIEVEMENT MEAN SCORES AND
STANDARD DEVIATIONS FOR SED AND
SOCIALY MALADJUSTED BOYS

Achievement Test	SED (N=28)		Socially Maladjusted (N=96)	
Reading	83.11	(14.11)	88.19	(12.14)
Mathematics	81.61	(15.80)	80.41	(12.48)
Written Language	83.39	(16.47)	82.24	(11.19)

Note. Table entries are normalized standard scores (M = 100, SD = 15), SED = Seriously emotionally disturbed.

Summary

The statistical findings of Study I and Study II may be summarized as follows:

1. SED boys did not significantly differ from socially maladjusted boys on ratings of the emotional disturbance dimensions, anxiety-withdrawal and psychotic behavior.
2. Teachers rated boys as having significantly fewer emotional problems than ratings by staff.
3. SED boys did not significantly differ from socially maladjusted boys on ratings of the behavior disorder dimensions, conduct disorder, attention problems, and motor excess.

4. Teachers rated boys as having significantly fewer behavior disorder problems on the dimensions, conduct disorder, socialized aggression, and attention problems.

5. SED boys were rated as having fewer problems related to socialized aggression than socially maladjusted boys.

6. Teachers rated SED boys, but not socially maladjusted boys, as having fewer problems related to motor excess than staff.

Results from Study III may be summarized as SED boys did not significantly differ from socially maladjusted boys on academic achievement measures of reading, mathematics, and written language.

CHAPTER V

DISCUSSION

The present investigation involved boys with serious emotional disturbance and boys with social maladjustment and examined differences in their emotional and behavioral problem characteristics, and academic achievement. Results from studies I and II suggest that boys with social maladjustment cannot be reliably distinguished from boys with serious emotional disturbance in terms of ratings by teachers and staff on anxiety, social withdrawal, and psychotic behavior. Neither could boys with social maladjustment be reliably distinguished from boys with SED in terms of severity of behavior problems as measured by teacher and staff ratings of conduct disorder, inattention, and hyperactivity.

These findings tend to discourage use of the dichotomous approaches implicit in either the categorical model or empirical/dimensional model of distinguishing between SED and social maladjustment in this sample of boys. There is some support, however, for classifying SED and socially maladjusted children by conceptualizing differences according to the social systems model. The delinquent boys placed by the juvenile court system were rated as having significantly more problems on the socialized aggression dimension than boys found in the psychiatric facility. This is not surprising because the behavioral characteristics specifically measured by this dimension, e.g., steals in company with others, belongs to gang, uses drugs, freely admits disrespect for moral

values and laws, are typically those types of behaviors likely to bring children to the attention of the juvenile court system.

The social system model, however, does not account for the high degree of emotional problems found in these boys. The implications of findings from studies I and II are that problems in social maladjustment may be a legitimate concern of the mental health system. These findings confirm previous research identifying high prevalence rates of emotional disturbance in samples of juvenile delinquents (Hollander & Turner, 1985; Chiles, Miller, & Cox, 1980) and overlapping diagnoses of emotional disturbance and behavior disorders when comparing these different populations of children (Curry, Pelissier, Woodford, & Lochman, 1988).

It is apparent from the results of Study III which reported no significant differences between SED and socially maladjusted boys in reading, mathematics, and written language, that socially maladjusted boys have academic difficulties similar to SED boys. This finding supports results from a number of studies in which children with problems in delinquency (Meltzer, Levine, Karniski, Palfrey, & Clarke, 1984; Murphy, 1986), ADHD (Cantwell & Satterfield, 1978; Frick & Lahey, 1991) and conduct disorder (Kauffman, Cullinan, & Epstein, 1987; Reeves, Werry, Elkind, & Zametkin, 1987) were found to be at risk for academic related problems.

Of secondary interest in the current investigation were the effects of different types of informants (teachers versus staff) on ratings of emotional and behavioral problems. Except for socially maladjusted boys who were rated the same by both teachers and staff on the socialized aggressive dimension, teachers rated socially maladjusted boys and SED boys as having significantly fewer problems than staff did.

In the current study, the perception of greater emotional and behavioral problems by staff and not by teachers may be due to a number of variables. First, teachers typically lack the opportunity to observe certain problem behaviors, e.g., sleeping, eating, which are more assessable to observation by staff. Second, behavior is differentially affected by different settings and observers. For example, the structure and organization of activities in the classroom may have a sedating effect on deviant behavior. Third, specific observer characteristics may affect the reliability of behavior ratings (Isaac & Michael, 1981). Fourth, teachers may be more optimistic about their ability to change and influence behavior in the class while staff may be significantly more cynical and pessimistic about the degree of pathology and their ability to change the behavior of their students.

Achenbach and his colleagues, however, have argued that rather than look for agreement among diverse observers, clinical assessment should strive to collect measures of behavior from multiple settings and different raters in order to have a more comprehensive and thorough assessment (Achenbach & Edelbrock, 1978; Achenbach & McConaughy, 1987). Subsequent intervention techniques could be developed to focus on specific situational variables or on the changing of perceptions of the informant.

Limitations of the Study

Several notes of caution are warranted regarding the results of this study. First, current findings should not be generalized to boys younger than 13 years old or to females. Reviews of other studies report that age and gender differences may be related to child psychopathology (Achenbach, 1982).

A second caution regarding the generalizability of these findings concerns the issue of placement. Results from the current investigation may not be generalizable to boys who are not institutionalized. The two samples used in this study represent boys hospitalized for psychiatric problems and incarcerated for delinquency, and do not represent randomly selected, randomly assigned, unbiased samples of boys found in the normal population. These samples also may not represent emotionally disturbed or delinquent boys at large.

It is possible that the lack of group differences on the dimensional measures of emotional and behavioral problems and measures of academic achievement was a result of variables related to placement. First, incarcerated delinquents may experience increased levels of anxiety, dysphoria, and withdrawal following incarceration. Similarly, SED boys may become more aggressive and resistant as a direct result of confinement. Second, lack of group differences may also be related to the severity of symptoms. Confinement is the most restrictive of all treatment modalities and typically reserved for those who have not benefitted from previous, less intrusive techniques. It is possible that as problem behaviors become more severe, children exhibit multiple and overlapping emotional and behavioral problems.

Implications

With these cautions in mind, implications for classifying socially maladjusted children in special education will be discussed. Results from the current investigation suggest boys with social maladjustment may be equally as handicapped in terms of social/emotional development and academic achievement as boys with SED. These

findings tend to support Bower's (1982) contention that children with social maladjustment should not be distinguished from SED children for purposes of special educational placement. Furthermore, exclusion of socially maladjusted children from the handicapping category of SED does not appear justified.

The research work of Patterson and his colleagues (1982) at the Oregon Social Learning Center may provide a basis for speculation regarding the relationship between poor academic performance and specific behaviors characteristic of socially maladjusted children. The theory formulated by Patterson (1982) argues that academic failure is very likely the result of antisocial behavior. Aggressive behavior patterns are initially developed and maintained through the daily interaction between child and parent. Results from a large number of sequential analyses of home observation data of parent-child interactions suggest these parents have a strong reliance on coercion and pain control to manage their children. Compared to controls, members of these families exchange high rates of aversive interactions, maintain a longer duration of negative interactions, and use more negative and less positive reinforcement strategies. Antisocial children are more likely to engage in similar aggressive and coercive behavior patterns outside the home, according to Patterson's theory. This makes it difficult to manage these children in the schools and teach them academic subjects.

Qualifying socially maladjusted children for special education placement and related services may not guarantee academic success. In fact, an extensive review of studies on the effectiveness of special educational programming, indicates mixed findings (Kavale, 1990). However, recognition of social maladjustment as an educationally handicapping condition has important implications for the school. First, broadening the SED

classification to include social maladjustment would eliminate the need to distinguish between the two, reducing the confusion surrounding the term social maladjustment. Second, a federal policy recognizing social maladjustment as an educationally handicapping condition would require schools to provide the necessary educational and related services. Current school discipline practices, e.g., suspensions, expulsions, deny socially maladjusted children educational opportunities for learning. As a result, these children fall further behind in their studies and must remain in school longer in order to make up lost credits. While suspended, they may engage in more frequent delinquent-type behavior, particularly if their parents are unable to supervise or control them during the day. Third, identifying socially maladjusted children as educationally handicapped children would further serve to encourage schools to expand their educational services beyond the self-contained classroom and use a more comprehensive, ecological approach. The needs of socially maladjusted and SED children cross multiple services agencies, e.g., mental health, child welfare, juvenile justice. The most effective delinquency prevention programs have involved both educational and noneducational support systems and were initially developed to prevent school failure (Zigler, Taussig, & Black, 1992).

Future Study and Research

Due to the exploratory nature of the current investigation, a number of questions remain concerning issues of internal and external validity.

1. Two areas related to the issue of internal validity and in need of further research are type of placement and ethnic status. This research should focus on whether type of

placement (home, group home, institution) or type of disorder differentially affect the emotional/behavioral characteristics and academic achievement of SED and socially maladjusted children. Furthermore, ethnic differences may also be a confounding variable affecting the current results and should be investigated in future studies.

2. Concerning issues of external validity, further research should be directed at establishing how gender differences are related to emotional and behavioral characteristics and academic achievement of children with SED and socially maladjustment.

3. The concept of social maladjustment may also be quite different for boys of different ages. For example, official delinquency is almost exclusively focused upon children 13 years and older. Therefore, delinquent adjudication used in the current investigation to classify social maladjustment, may not be a useful classification criteria for younger children. Second, Quay's research (1986a) suggests that the socialized aggressive dimension which differentiated SED from socially maladjusted boys in the current study, may be a developmental phenomenon and found predominantly in adolescent and pre-adolescent males. Other emotional or behavioral problem dimensions or areas of academic achievement may emerge to differentiate younger socially maladjusted children from older children.

4. The current findings do not explain how various cognitive and behavioral factors may influence the academic achievement of SED and socially maladjusted boys. While Patterson's (1982) coercive process theory may explain how academic achievement is affected by antisocial behavior, other researchers have suggested academic achievement is affected by cognitive deficits rather than antisocial behavior (Schoenfeld, Shaffer,

O'Connor, & Portnoy, 1988; Wilson & Herrnstein, 1985). Verbal abilities are typically in the low average range and average eight points below average ability on performance tasks (see Quay, 1987, for review). It is argued that delinquent children are unable to compete academically with children of normal IQ, and are likely to find school difficult and frustrating.

5. Another question requiring further research is whether specific subtypes of deviant behavior, e.g., conduct disorder, ADHD, socialized aggression, are at greater risk for general academic underachievement. Specifically, are there subtypes of SED children or socially maladjusted children who tend to perform better in one academic area than another? Such research may prove invaluable in establishing educational interventions.

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APPENDIXES

APPENDIX A
INFORMED CONSENT AGREEMENT

INFORMED CONSENT AGREEMENT

I, _____ give voluntary consent to

Michael Dencker to perform the following procedures:

1. Collect demographical data, intellectual and academic test scores from my records.
2. Collect behavior ratings from teachers and staff.

I understand all information will be kept confidential and my participation is voluntary.

There is no penalty if I do not give my consent or if I choose to withdraw from this study at any time. The title of this research study is, "Predicting Academic Achievement in Reading, Mathematics, and Written Language from Subtypes of Child Behavior Problems".

Witness

Subject

Date

APPENDIX B

IRB APPROVAL FORM

OKLAHOMA STATE UNIVERSITY
 INSTITUTIONAL REVIEW BOARD
 FOR HUMAN SUBJECTS RESEARCH

Proposal Title: Predicting Academic Achievement in Reading, Mathematics
and Written Language from Subtypes of Childhood Behavior Problems

Principal Investigator: P. Warden/M. Dencker

Date: 12-5-91 IRB # ED-92-015

 This application has been reviewed by the IRB and

Processed as: Exempt [] Expedite [] Full Board Review [X]

Renewal or Continuation []

Approval Status Recommended by Reviewer(s):

Approved [X]

Deferred for Revision []

Approved with Provision []

Disapproved []

Approval status subject to review by full Institutional Review Board at
 next meeting, 2nd and 4th Thursday of each month.

 Comments, Modifications/Conditions for Approval or Reason for Deferral or
 Disapproval:

Please send agency approvals as you receive them.

Signature: *Maria R. Tilley*

Chair of Institutional Review Board

Date: 1-20-92

VITA

Michael F. Dencker

Candidate for the Degree of

Doctor of Philosophy

Thesis: DIFFERENCES BETWEEN SERIOUSLY EMOTIONALLY DISTURBED AND SOCIALLY MALADJUSTED BOYS ON MEASURES OF ACADEMIC ACHIEVEMENT AND RATINGS OF EMOTIONAL AND BEHAVIORAL PROBLEMS

Major Field: Applied Behavioral Studies

Biographical:

Personal Data: Born in Newark, New Jersey, March 24, 1948, the son of Frederick and Helen Dencker.

Education: Graduated from Millburn High School, Millburn, New Jersey, in June, 1967; received Bachelor of Science Degree in Psychology from Oklahoma State University at Stillwater in January, 1972; received Masters of Science Degree from Pace University at New York City in May, 1977; completed requirements for the Doctor of Philosophy degree at Oklahoma State University in December, 1992.

Professional Experience: School Psychologist, Central Oklahoma Juvenile Treatment Center July, 1989 to present; professional affiliations include: American Psychological Association, National Association of School Psychologists, Oklahoma School Psychological Association: Professional licenses and certifications include: Licensed Marriage and Family Therapist, Licensed Professional Counselor, Nationally Certified School Psychologist.