A Profile Analysis of the SCL-90-R for Aggressive and Nonaggressive Adolescents with Conduct Disorder: a Comparison of Aggression and Nonaggression in Relationship to Psychoticism and Depression, Hostility and Anxiety

Janet M. Rice
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A profile analysis of the SCL-90-R for aggressive and nonaggressive adolescents with conduct disorder: A comparison of aggression and nonaggression in relationship to psychoticism and depression, hostility and anxiety

Rice, Janet Mildred, Ph.D.
Andrews University, 1988

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Andrews University
School of Education

A PROFILE ANALYSIS OF THE SCL-90-R FOR AGGRESSIVE AND NONAGGRESSIVE ADOLESCENTS WITH CONDUCT DISORDER: A COMPARISON OF AGGRESSION AND NONAGGRESSION IN RELATIONSHIP TO PSYCHOTICISM AND DEPRESSION, HOSTILITY AND ANXIETY

A Dissertation
Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

by
Janet M. Rice
July 1988
A PROFILE ANALYSIS OF THE SCL-90-R FOR AGGRESSIVE AND NONAGGRESSIVE CONDUCT DISORDERED ADOLESCENTS: A COMPARISON OF AGGRESSION AND NONAGGRESSION IN RELATIONSHIP TO PSYCHOTICISM AND DEPRESSION, HOSTILITY AND ANXIETY

A dissertation presented in partial fulfillment of the requirements for the degree Doctor of Philosophy

by

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ABSTRACT

A PROFILE ANALYSIS OF THE SCL-90-R FOR AGGRESSIVE AND NONAGGRESSIVE ADOLESCENTS WITH CONDUCT DISORDER: A COMPARISON OF AGGRESSION AND NONAGGRESSION IN RELATIONSHIP TO PSYCHOTICISM AND DEPRESSION, HOSTILITY AND ANXIETY

by

Janet M. Rice

Chair: Marion J. Merchant
Abstract of Graduate Student Research

Dissertation

Andrews University
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Title: A Profile Analysis of the SCL-90-R for Aggressive and Nonaggressive Adolescents with Conduct Disorder: A Comparison of Aggression and Nonaggression in Relationship to Psychoticism and Depression, Hostility, and Anxiety

Name of researcher: Janet M. Rice

Name and degree of faculty adviser: Marion J. Merchant, Ph.D.

Date completed: July 1988

Problem

Dissatisfaction with the DSM-III classification of conduct disorder has led the editors of the DSM-III-R to group the socialized and undersocialized, aggressive and the undersocialized, non-aggressive conduct-disorderd youth together in the same category (Solitary Aggressive Type). However, the symptoms and behavior of aggressive and nonaggressive youth are so diverse, they should be placed in totally separate categories. The implications of mis-diagnosis are serious for rehabilitation and treatment.
Method

One hundred-thirty male adolescents labeled aggressive and nonaggressive conduct-disordered were administered the SCL-90-R. The Chi-square test determined what percentage in each group scored at the 70th percentile or above in the category of Psychoticism. The t-test determined if there was a significant difference between the two groups in the categories of Depression, Hostility, Anxiety, and on the Global Severity Index. Stepwise and best subsets regression determined a model for predicting conduct disorder. The correlation between each of the 10 items and the total scores in the two categories that made up the model was examined.

Results

Psychoticism and Obsessive-Compulsive made up the model for predicting conduct disorder. While 83.9% of the aggressive group scored at the 70th percentile or above in the category of Psychoticism, only 17.6% of the nonaggressive group scored that high. The t-test showed a significant difference between the two groups in the categories of Depression, Hostility, Anxiety, and on the Global Severity Index.

Conclusions

The results of the SCL-90-R indicate that aggressive and nonaggressive conduct-disordered youth are so diverse in frequency and intensity of symptoms, they should not be placed in the same diagnostic category, and treatment must vary to prevent recidivism.
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ACKNOWLEDGEMENTS

An expression of thanks is due several people for the guidance and support that was given to see this project through to completion. First, thanks must go to Dr. Marion Merchant for the time and energy she gave throughout this study. The time and suggestions contributed by Drs. Donald Gillespie and Thesba Johnston are also greatly appreciated. A special word of thanks must go to Dr. Jerome Thayer for his encouragement and innovative ideas for handling and processing the data, and to Dr. Conrad Reichert for his willingness to take time out of his busy schedule to serve as the external examiner. Also, special thanks go to my husband who spent so many hours typing this material into the computer. Without his support and understanding, the completion of this dissertation would not have been possible.
CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction

In the past, similar terms have been used to describe the antisocial behavior of both adults and adolescents; more recently the term conduct disorder has been applied particularly to antisocial behavior in preadolescence and adolescence (DSM-III, 1980). The criteria for defining and diagnosing conduct disorder, however, have long been questioned. The discussion revolves around the placement of aggressive and nonaggressive youth in the same category. Due to the broad range of difference between aggressive and nonaggressive behavior, there is a growing opinion among experts that these youth must be placed in two separate categories and receive different treatment.

Distinctions should be made among (1) youth who are aggressive, (2) those who are nonaggressive, (3) those who are delinquent, and (4) those who are both aggressive and delinquent. Studies have shown that aggression and delinquency are relatively independent of each other. There still remains, however, disagreement as to what criteria constitute aggressive conduct disorder; therefore, further study is needed.

This study is not concerned with delinquency per se; it is restricted to an investigation of the differences between aggressive
and nonaggressive conduct-disordered youth and of the factors contributing to conduct disorder. (Several issues relating to the characteristics of conduct disorder are listed and addressed later in Chapter 1). Little research has been done on the differences between aggressive and nonaggressive behavior. The data described in Chapter 4 should prove helpful in developing criteria for the diagnosis of conduct disorder and planning for treatment, management, rehabilitation, evaluation, and education of professionals.

Background

Hewitt and Jenkins (1946) were among the first to investigate the psychopathology of children and to classify children's symptoms into categories. They established groups of (1) unsocialized youth that were also aggressive, (2) socialized delinquent youth, and (3) a group that was withdrawn or overinhibited. These categories later developed into the four areas of conduct disorder that exist in the Diagnostic and Statistical Manual, third edition (DSM-III, 1980) published by the American Psychiatric Association.

Other diagnostic systems include the World Health Organization (WHO) and the International Classification of Disorders (ICD). WHO has only one category for conduct disorder which includes illegal activities such as theft or destruction of property, fighting, and cruelty toward animals. A wide range of delinquent acts are referred to in a single category.

The ICD is a statistical classification of mental disorders, other diseases, and morbid conditions. Its principal use is for keeping the records of mortality statistics; however, it has also
been adapted for indexing and retrieving medical records.

There are definite limitations to the ICD. It is not a nomenclature of diseases; and, therefore, it does not attempt to describe all clinical and pathological observations. The ICD is revised only every 10 years. For these reasons the ICD proved inadequate and the DSM series was developed for use in the mental health field. Clinicians needed something fully descriptive and more current. The DSM series has nomenclature that expands to include new terms as they become accepted, and this series has already progressed through several modifications and revisions, the most recent being the DSM-III-R (1987).

The ICD has been adapted for use in clinical situations and for record-keeping in hospitals, where it is called H-ICD-A. In 1977 a committee was formed to modify the ICD-9 to make it more specific. With input from many professional medical organizations, the ICD-9-CM (Clinical Modification) was developed. WHO developed the ICD-9 while the American Psychiatric Association Task Force was still working on DSM-III. Attempts were made to promote compatibility between the two.

The ICD-9 has a category called Disturbance of Conduct Not Elsewhere Classified. There are four subcategories under this heading: (1) Unsocialized Disturbance of Conduct such as disobedience, defiance, aggression, destruction, stealing, and lying; (2) Socialized Disturbance of Conduct which includes stealing as a group, and identification with and loyalty to a group; (3) Compulsive Conduct Disorder which may involve antisocial behavior such as kleptomania; and (4) Mixed Disturbances of Conduct and Emotions.
which includes antisocial behavior accompanied with anxiety or apprehension.

The DSM-III outlines four types of conduct disorder: (1) Undersocialized, Aggressive; (2) Undersocialized, Nonaggressive; (3) Socialized, Aggressive; and (4) Socialized, Nonaggressive. The parallel between the first two categories of the ICD-9 and the Undersocialized and Socialized categories of conduct disorder in the DSM-III are apparent.

**DSM-III Criteria**

The DSM-III criteria for classifying conduct disorder has been challenged because the preliminary field statistical studies used for the DSM-III appear to be problematic. Stewart and de Blois (1985) point out that the one follow-up study (Henn, Bardwell, & Jenkins, 1980) of socialized and undersocialized delinquents failed to control for the severity of the subject's misconduct. Their criticism of the DSM-III is based upon what they perceive to be a lack of data that establishes the validity of these classifications.

Stewart and de Blois believe there is general agreement on a definition of conduct disorder. They speak of disorders involving aggressive and destructive behavior and disorders involving delinquency. But data necessary for defining specific syndromes within conduct disorder are incomplete. Stewart and de Blois support a distinction between aggressive and nonaggressive symptoms, and thus on this point agree with the DSM-III. However, they would refine the DSM-III criteria for classifying conduct disorder.

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DSM-III-R Criteria

The DSM-III-R states that the three new categories presented correspond to categories derived from empirical studies. They refer to conduct problems alone and not to coexisting mental disorders which must be coded separately. Any coexisting mental disorders should also be diagnosed as mild, moderate, or severe since research has demonstrated the significance of degree of impairment, especially regarding prognosis.

These new categories are (1) Solitary Aggressive Type, which corresponds to the Undersocialized, Aggressive, the Undersocialized, Nonaggressive, and the Socialized, Aggressive types of the DSM-III; (2) Group Type, which corresponds to the Socialized, Nonaggressive type (however, in the revised edition physical aggression may be present; these youth usually claim loyalty to group members); and (3) Undifferentiated Type, which is a residual group and may be more common than the other two types.

The DSM-III-R has grouped aggressives and undersocialized, nonaggressives in the Solitary Aggressive Type, thus removing the distinction found in the DSM-III. The new criteria also allows for aggression in the Group Type (formerly Socialized, Nonaggressive). Researchers have urged a separation between aggressive and nonaggressive types; however, they have not had enough time to react to these new categories. The revision appears to be an attempt to accommodate more than one theory regarding aggressive and nonaggressive behavior.
Discussion Over Criteria

Stewart and de Blois (1985) discuss the DSM-III criteria for conduct-disordered aggressive and nonaggressive. They state that the American Psychiatric Association criteria for conduct disorders are "thoroughly controversial" chiefly for want of data. There is increased belief that aggressive and nonaggressive conduct disorders are relatively independent of each other. Hewitt and Jenkins' (1946) clusters of aggressive and delinquent behaviors found that the two were separate dimensions of behavior. West and Farrington (1977) found that aggressive and delinquent boys overlapped but were not identical.

Most professional articles appear to make a distinction between the areas of conduct disorder and delinquency. Eysenck (1981) suggests that the severity of antisocial conduct among juveniles may be correlated with the general personality dimensions of psychoticism and extroversion. Along similar lines, Paisey and Paisey (1982) and Haine, Roger, and Venables (1982) report relationships between psychoticism, impulsivity, and extroversion. Findings suggest the possibility that juvenile misconduct has a dimensional structure parallel to that already established by adult offenders (Eysenck, 1977; Eysenck & Eysenck, 1978). Berman and Paisey (1984) demonstrate a positive relationship between psychoticism scores and crimes of violence. They ran a comparative study of assaultive and nonassaultive juvenile male offenders in which Eysenck's Personality Questionnaire was used. Besides scoring higher in psychoticism, aggressive conduct-disordered adolescents also scored higher than nonaggressive conduct-disordered youth on sensation seeking.
Stewart and de Blois (1985) analyzed their original data to find what combinations of traits or specific symptoms distinguish children with aggressive conduct disorders from those with other diagnoses. The eight symptoms identified include fighting, quarrelsomeness, attacks on adults, extreme competitiveness, stealing outside of home, lies, undue need for attention, and difficulty sharing. It should be noted that these eight symptoms differ from the DSM-III definition of undersocialized conduct disorder, aggressive type, or the DSM-III-R Solitary Aggressive Type, which is based on criminal violence and lack of feeling for others. Stewart and de Blois state that aggressive conduct disorder is a valid psychiatric syndrome, but nonaggressive, socialized conduct disorder would not qualify as a psychiatric syndrome under their criteria. According to this study aggressive and nonaggressive conduct disorder should be in separate categories. Clearly, there is a need for more investigation regarding personality profile differences between aggressive and nonaggressive conduct-disordered adolescents.

In summary, the American Psychiatric Association released its first Diagnostic and Statistical Manual of Mental Disorders which contained a glossary of descriptions of the different diagnostic categories in 1952. The DSM-II based its classifications on the mental disorders of the ICD-8. The American Psychiatric Association had provided consultation for the ICD. The DSM-II and the ICD-8 went into effect in 1968. The American Psychiatric Association began work on the development of the DSM-III in 1974. Although this association worked closely with the World Health Organization on the development of the ICD-9, there was dissatisfaction with its
glossary. It was not specific enough in criteria and did not make use of the multiaxial approach to evaluation. The main objective for the DSM-III was that it be clinically useful.

Because many subspecialties in medicine were dissatisfied with the ICD-9, it was modified to the ICD-9-CM which in 1979 became the system used in this country for recording diseases, injuries, impairments, symptoms, and the cause of death. The DSM-III was approved in June, 1979; the DSM-III-R came out in 1987. It is used as a reference for clinical diagnosis of mental disorders. Although the DSM-IV has not been approved in its final form at present, it is scheduled to be published in the 1990s.

Statement of the Problem

Dissatisfaction with the DSM-III classification of conduct disorder has focused attention on the need for further study of the criteria for diagnosis. Aggressive and nonaggressive conduct-disordered adolescents are so dissimilar in behavior, there is concern with placing them in the same category. Because their symptoms are so diverse, they may be better served by placement in totally separate categories.

If adolescents are labeled conduct-disordered, they may not be eligible for other services such as special education. The label a youth receives can also prevent the investigation of other areas such as neuropsychological processing weakness.

Some youth today may meet the criteria of conduct disorder because of violations of the law, but they may not be seriously disturbed. They simply may be modeling the behavior of adult
members of the family. If such an adolescent is removed from his environment, he may change his behavior. Other youth who are seriously disturbed and very aggressive cannot change their behavior without comprehensive, long-term therapy. Some aggressive conduct-disordered youth continue to become progressively worse.

Although there is a limitation in studies and a lack of data in the area of conduct disorder, there is enough research to demonstrate a need for modification of the criteria for diagnosis. Whether the new criteria in the DSM-III-R satisfies this need is yet to be demonstrated.

Stewart and de Blois (1985) and Kelso and Stewart (1986) suggest that aggressive conduct disorder is a psychiatric condition. This suggestion has many implications for management and treatment. Interest has been shown in the implications of such a diagnosis because of issues relating to prediction and possible intervention in attempts to control aggressive conduct disorder.

Another aspect of the problem relates to the definition of aggressive behavior, about which considerable difference of opinion exists. Because conduct disorder has a multiplicity of signs and symptoms characteristic of other psychiatric disorders, misdiagnosis is a valid concern. Misdiagnosis can lead to neglect of treatable neuropsychiatric conditions and has implications for other areas of management such as therapy (Lewis, Lewis, Unger, & Goldman, 1984).

**Purpose of the Study**

The purpose of this study was to (1) explore the characteristics of conduct disorder and their relationship to psychoticism,
depression, anxiety, and hostility, (2) determine the degree of
difference between aggressive and nonaggressive conduct-disordered
adolescents in relation to psychiatric syndrome, including hostility, anxiety, depression, and schizophrenia, and (3) explore the
need for a more specific criteria for aggressive and nonaggressive
conduct disorder in order to facilitate diagnosis, prediction, and
treatment of youth at risk.

In connection with these purposes, the data for this study
have been collected on the basis of the DSM-III criteria. If the
results show a significant difference, the new criteria in the
DSM-III-R will be in question. If there is no significant differ­
ence, then, perhaps, the new criteria are a step in the right
direction.

**Issues to Be Addressed**

Issues to be addressed in this study relate to six hypoth­
eses: hypothesis one relates to differences in the degree of
psychoticism that exist in aggressive and nonaggressive conduct­
disordered adolescents; hypotheses two, three, and four relate
to differences in the degree of hostility, depression, and anxiety
that exists in aggressive and nonaggressive conduct-disordered
adolescents; hypothesis five relates to differences in the degree
of severity and frequency of symptoms expressed in the composite
score; and hypothesis six relates to differences between the nine
categories of the SCL-90-R when considering which contributes most to
the conduct disorder.
Degree of Psychoticism: A Comparison of Aggressive and Nonaggressive Youth

Stewart and de Blois (1985) present evidence for a diagnosis of psychiatric syndrome for conduct-disordered youth. They would restrict this diagnosis to only severely aggressive youth. Their criteria is specified as to length of time for symptoms, the age at onset, and persistence; they say a year, at least, of persistent symptoms is necessary for diagnosis. Stewart and Behar (1983) state that aggressive children respond better to psychotherapy than those that are both aggressive and antisocial.

Aggressiveness appears to be remarkably stable especially in boys from the age of three to adulthood. Lying and stealing appear to stabilize at a later age, perhaps not until age 10.

Lewis et al. (1984) report in their study the number of times conduct-disordered adolescents are admitted to the hospital with a diagnosis of conduct disorder, but leave with a diagnosis of schizophrenia. This study also suggests that conduct disorder may be an interim diagnosis, and that some individuals deteriorate and become schizophrenic.

There is a problem in trying to determine the cause for aggressive behavior. Fighting, for instance, may be a symptom of antisocial and aggressive behavior, or it may result from temporary crises involving anger, hostility, and depression. Clearly, fighting in itself would not be sufficient to classify a child as aggressive. In this study, not only is the degree of psychoticism for aggressive youth analyzed, but it is compared with youth who have been classified as nonaggressive. Because conduct-disordered adolescents
Hostility, Depression, and Anxiety: A Comparison of Aggressive and Nonaggressive Youth

Hostility

There is a great deal of discussion about the degree of hostility present in aggressive children and adolescents, and in those viewed as conduct-disordered but not aggressive. Some believe aggressive youth are more hostile because their overt, assaultive behavior demonstrates hostility. Others indicate that aggressive youth may actually harbor less hostility because they act out aggressively and vent frustration which may lower hostility levels. Along the same line, there is the possibility that nonaggressive youth will demonstrate significant hostility on a test instrument because they tend to allow tension to build rather than to deal with it effectively. In this study it was anticipated that aggressive conduct-disordered youth would score significantly above the nonaggressive in hostility. This assumption was based on clinical observation of behavior and not on a review of literature or test results.

The degree of anxiety and depression of conduct-disordered youth, when compared with nonaggressive youth, is less clear. If the assumption is confirmed that aggressive conduct-disordered youth...
are more seriously ill than nonaggressive youth, then the aggressive youth should score higher than nonaggressive youth in depression and anxiety. It was anticipated that this would be the case. The degree of difference, however, could be less for depression and anxiety than for hostility.

**Depression**

The relationship between depression and anxiety is complex. Conduct-disordered youth may experience severe depression upon incarceration, especially if it is the first incarceration and the youth has strong bonds to the family or a boy/girl friend. Separation and loss of contact cause a feeling of isolation and helplessness. Outpatients at mental health clinics or those in therapy with psychologists in private practice may experience severe depression if they are going to trial and fear a sentence. In this case, anxiety may precede the trial and depression may follow if incarceration is mandated.

**Anxiety**

Anxiety has been described as a mixed feeling of dread and apprehension about the future. Fear may be chronic and of a mild degree, or it may be strong and overwhelming. A generalized anxiety may begin as a specific anxiety and spiral on to become general. For example, criminal activity on the part of those previously arrested may stimulate an awareness of the possibility of punishment for their behavior. Most repeat offenders insist that they got caught because they made a mistake, and that they are not going to make another mistake.
Upon arrest, they may display mild anxiety while still hoping to "get out of it easy," or they may be overwhelmed with strong anxiety and depression, fearing the worst possible outcome. Mental health personnel are aware of the danger of suicide attempts in delinquents during the first day or two of incarceration. Although there may be more overlap between anxiety and depression, it appears that anxiety also contributes to decompensation in conduct-disordered youth who are incarcerated. Conduct-disordered youth with poor cognitive skills are often frightened and often demonstrate violent and aggressive behavior as their anxiety levels increase.

Psychoticism and Its Relationship to Hostility, Depression, and Anxiety

There is a question regarding psychoticism and its relationship to other clinical diagnostic categories such as hostility, depression, and anxiety in both aggressive and nonaggressive conduct-disordered youth. It was anticipated that there would be a positive relationship between psychoticism and hostility, depression, and anxiety in the aggressive conduct-disordered population. This relationship could be greater for hostility than for depression and anxiety. There should be a positive relationship between depression and psychoticism.

It was anticipated that within the nonaggressive conduct-disordered population there may not be a significant relationship between psychoticism and hostility, depression, and anxiety because the psychoticism scores would be lower. Even if depression and
anxiety score well above the norm in the nonaggressive conduct-disordered sample, there still may not be a significant relationship between them and psychoticism.

**Definition of Terms**

There are terms that are used repeatedly throughout this study; therefore, a brief explanation may be helpful.

1. **Antisocial personality:** a personality free from gross symptoms of a psychosis but which does not accept the mores of the larger society; such an individual acts as a troublemaker.

2. **Attention-deficit disorder:** inappropriate attention and impulsivity for the age of the child.

3. **Borderline personality disorder:** deficits in a variety of areas including interpersonal behavior, mood, and self-image.

4. **Conduct disorder:** antisocial behavior in children and adolescents. The social term is delinquent behavior. Delinquent behavior, however, includes a much broader range of symptoms. In this study conduct disorder refers to the group of symptoms outlined in the DSM-III.

5. **Extroversion:** attention and interests directed toward what is outside the self.

6. **Hyperactivity:** gross motor activity such as excessive running or climbing and having difficulty sitting still; haphazard, poorly organized, and not goal-directed.

7. **Introversion:** tendency toward being concerned with or interested in one's own mental life.

8. **Narcissistic:** love of one's self, egocentrism.
9. Psychogenic: a development from mental rather than physical origins.

10. Psychopathic personality: an emotional and behavioral disorder involving immediate personal gratification in criminal acts, and clear perception of reality except for social and moral obligations. This disorder often includes addiction and sexual perversion.

11. Psychoticism: a grave mental disorder characterized by disorganization of thought processes and emotional disturbance. There may be disorientation as to time, space, and person, and in some cases delusions and hallucinations.

12. Schizophrenia: a psychotic disorder involving multiple psychological processes, deterioration from a previous level of function. Onset is before age 45 and duration is at least six months. It involves delusions, hallucinations, or certain disturbances in thought-processing.

**Limitations**

This study included subjects that were diagnosed conduct-disordered upon admission to an outpatient clinic, a detention center, and to treatment in private practice. The three categories were handled as one when collecting and processing the data.

**Delimitations**

It was not the purpose of this study to deal with delinquency and its causes. Nor does this study attempt to design a treatment plan for conduct-disordered youth based upon its results.
Summary

In the United States the most widely used diagnostic manual, the Diagnostic and Statistical Manual, was first published in 1952. There have been four revisions since it first appeared, and the DSM-IV is due in the 1990s. Many clinicians, however, are uncomfortable with its criteria for diagnosis.

Some professionals who work as clinicians with conduct-disordered adolescents believe it would be helpful to separate aggressive and nonaggressive conduct-disordered youth into two separate categories because their behavior is so different. There is also a question as to the degree of psychoticism present in conduct-disordered adolescents. Stewart and de Blois (1985) indicate that in severe conduct disorder there is a psychiatric syndrome.

Anxiety, depression, and hostility are also observed in conduct-disordered youth. The degree of the relationship between patients diagnosed with these disorders has been compared with aggressive conduct disorder. The general anticipation was that there would be a positive relationship between aggressive conduct disorder and the other specific disorders discussed in this chapter.
CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

Research regarding aggressive behavior in adolescents is a relatively new area of investigation. Over the years a few professionals have shown some interest in this area, but during the 1980s research has increased not only in comparing nonaggressive youth with those who are considered aggressive but also in the prediction of aggressive behavior. This chapter reviews the literature relating to the development of the diagnosis of conduct disorder.

Because researchers in the field of psychology and psychiatry have wrestled over the last two decades to develop an acceptable criteria for the identification of conduct disorder with its variations, it is necessary in this review of literature to deal with those studies which address the various mental and emotional conditions thought to be related to or to impact upon conduct disorder. Therefore, studies dealing with depression, hostility, schizophrenia, and other conditions seen by researchers to relate to conduct disorder are investigated.

Since the DSM-III classifications of conduct disorder were used for the selection of subjects for this study, an explanation of these classifications is given first. The review of the literature is divided into decades and attempts to illustrate a progression...
in the development of a criteria for conduct disorder. The 1970s and 1980s are the two decades of consequence because of the volume of literature produced and because of the expansion of ideas as to what is involved in conduct disorder. Therefore, the review of these decades is specifically divided into areas of disorder.

**DSM-III Classifications**

The DSM-III criteria for conduct disorder are outlined because all of the data for this study were gathered under this criteria. 

Conduct disorder is defined as a repetitive and persistent pattern of conduct which violates the basic rights of others and is not age-appropriate. Four specific subtypes of behavior are included: Undersocialized, Aggressive; Undersocialized, Nonaggressive; Socialized, Aggressive; and Socialized, Nonaggressive. The DSM-III recognizes that the validity of these diagnostic subtypes within the category of conduct disorder is controversial and that some investigators believe the frequency and degree of the problem is the important factor, while others believe undersocialized and socialized should be in separate categories.

The DSM-III outlines four types of conduct disorder:

1. Undersocialized, Aggressive: The undersocialized aggressive subject fails to establish a normal degree of affection or bond with others. Aggressive conduct is present that involves physical violence against a person or property and ultimately involves confrontation with a victim.

2. Undersocialized, Nonaggressive: The undersocialized
nonaggressive subject lacks bonding with others and does not demonstrate violence. Antisocial behavior involves truancy, substance abuse, running away, vandalism, lying, firesetting, and stealing which does not involve confrontation with a victim.

3. Socialized, Aggressive: The socialized aggressive subject is attached to other people and feels remorse at times, but physical violence, whether against property or persons, is present.

4. Socialized, Nonaggressive: The socialized nonaggressive subject shows some social attachment but violates rules without demonstrating violence.

Overview

Investigation of the relatively new area of conduct disorder has been hindered by a lack of agreement on criteria for identification. Only a few researchers have been consistently active in the field.

Recent literature on conduct disorder and aggressive adolescent behavior is critical of the DSM-III criteria for classification of conduct-disordered youth. There does not appear to be unanimous thought on new criteria, however. The review that follows attempts to trace the development of the diagnosis of conduct disorder.

Early Investigations
1936-1959

As early as 1936 Healy and Bronner conducted a study of families who had both delinquent and nondelinquent youth. There appeared to be a difference between these two groups in regard to health and general development. However, the research did not
verify any difference in intellectual development. At that time Healy and Bronner attributed delinquency to social learning and believed adolescents modeled behavior seen in movies.

Ten years later Hewitt and Jenkins (1946) pioneered the idea that delinquency and aggressive behavior are independent of each other. They identified delinquency with and without aggressive behavior, which allowed that delinquency and aggression did not necessarily go together. As early as the 1940s, therefore, an interest in aggressive behavior in adolescents began to develop.

Glueck and Glueck (1950) noted impulsivity and restlessness in specific adolescents. They wrote of the extreme lack of control in behavior within this population. There was also an unusual frequency of illness and accidents. Unlike Healy and Bronner, Glueck and Glueck found that delinquency is associated with low intelligence.

Bender (1953) conducted research involving older children that were aggressive. She suggested that aggression was an adaptation to the environment. She also suggested that such behavior is a part of the ego-organization in personality. Previously Sullivan (1948) had discussed the behavior of youth and had suggested that the young people were experiencing anxiety. He described this anxiety as being like fear, but experienced on an unconscious level. Such anxiety could produce apprehension, but the individual would deny both fear and anxiety.

As these researchers were beginning to describe the behavior of a specific group of youth, Morris, Escolli, and Weble (1956) were doing a follow-up study of 66 children who were hospitalized for the
treatment of aggressive behavior disorders. Eight years after admission to the hospital, 23% of them were considered to be well; 18% had become schizophrenic; 18% had court records due to violations of the law; and 41% were considered to be poorly adjusted. It was believed that aggressive behavior in young children predisposed them to later problems. They suggested further that deviance in boys' families heightened the risk of conduct disorder.

Mannheim and Wilkins (1955) and Morris et al. (1956) were also investigating the behavior of conduct-disordered youth. They decided that the age of the onset of the behavior was a determining factor in predicting the outcome.

Bradley (1957) investigated the behavior of the hyperactive child. He was saying that the prognosis for the hyperactive child was positive. The progression of the change in attitude in regard to this prognosis has gone from one extreme to the other. Shortly after Bradley's positive predictions, many were saying that children would outgrow hyperactivity. Years later the position was the opposite, i.e., hyperactivity was genetically caused; little could be done to modify the behavior; and much of this behavior carried over into adulthood. This progression was followed through the 1970s and 1980s. At this point in time, it suffices to say that Bradley was an early researcher who said that hyperactivity would in time become less disruptive.

Summary

Between the 1930s and the 1950s, researchers were saying that conduct disorder was learned and was the result of modeled
behavior. Observations noted a correlation between anxiety and aggressive behavior, and some believed aggressive behavior led to schizophrenia. A positive correlation demonstrated that boys with deviance in their families were likely to develop conduct disorders. At this time, it was hoped youth would simply outgrow hyperactivity.

Intermediate Phase
the 1960s

Most of the research that led to the classification of conduct disorder took place during the 1970s and the early 1980s. However, in the 1960s there was already an interest in aggressive behavior and its contributing factors which paved the way for the current research. In 1962 Yablonsky studied violent gang behavior. The conclusion was that gang members are devoid of stable social role positions, including the gang leader. Yablonsky stated further that the leaders are usually severely disturbed sociopaths who fulfill their needs through gang activity. It is interesting that Wolman (1987) and others said the same thing 20 years later, but in the interim many theories enjoyed popularity.

Warren (1965) was interested in boys who had been admitted to a hospital with a diagnosis of conduct disorder. Six years later 42% were still demonstrating conduct-disorder behavior; 53% were well; the remainder had developed other disorders. This means that over half of the boys diagnosed as conduct-disordered recovered sufficiently to lead a normal life.

At about the same time, Eisenberg (1966), reflecting the earlier position of Bradley (1957), was predicting a positive diagnosis for the hyperactive child. But others were beginning to
be concerned with the prevalence of hyperactivity and its apparent relationship with adult psychiatric disorders.

In 1966 Robins published work relating to aggressive behavior in youth and the development of antisocial personalities in adolescents who were aggressive. This development seemed to occur more often in aggressive adolescents than in nonaggressive youth. Robins' work was the catalyst for others who investigated the outcome of aggressive behavior.

Shortly afterward, Jones (1968) published a study in which he stated that aggressive youth appeared to have a higher incidence of alcoholism than did nonaggressive youth. Marshall and Mason (1968) described types of populations and their incidence of delinquent behavior: high congruence people are concerned with personal success and delinquency is absent; low congruence populations seem to include broken homes and demoralized families, both of which contribute to violence. Marshall and Mason noted that gangs developed in low congruent, densely populated communities.

Summary

During the 1960s, aggressive behavior and its causes became a point of increased interest. A correlation was observed between aggressive youth and antisocial adults. The social environment of delinquents became a point of increased interest.

Developmental Phase
the 1970s

During the 1970s research relating to conduct disorder escalated. Because various mental and emotional disorders were
being identified with conduct disorder during this decade, the
literature review is now subdivided into these various disorders.
However, literature relating to conduct disorder itself is examined
first. A similar format is followed for the 1980s.

Conduct Disorder

During the early 1970s researchers began to draw distinctions between aggressive and nonaggressive conduct-disordered
behavior, which laid the foundation for the classifications of
conduct-disorder for the DSM-III. Early in the decade Wolff (1971)
suggested that aggressive and delinquent patterns of behavior
observed in youth were not necessarily related, thus reflecting the
position taken by Hewitt and Jenkins (1946) 25 years earlier.

In 1973 Adler presented the theory that adolescents choose a
specific lifestyle early in childhood. They developed the preference
to compensate for perceived feelings of inferiority. At the same
time, however, Eysenck (1973) was saying extroversion and aggressive
behavior were, in general, biologically determined. He identified
extroversion-introversion as a dimension of personality dependent
upon cortical potentials. Depending upon this biological predisposi-
tion, the environment, then, affects individuals differently.

Graham and Rutter (1973) re-examined children who had been
diagnosed conduct-disordered. Forty-nine percent of the young
people were still conduct-disordered two to three years after the
first diagnosis. Thirty-three percent did improve. Eighteen per-
cent, however, developed psychiatric disorders or became worse.
Some years later Lewis et al. (1984) would say that conduct disorder
was an intermediate time in the life of the young person who was developing schizophrenia.

In the same year that Graham and Rutter published their findings, West and Farrington (1973) showed that extreme aggression appears to precede delinquency, and that many of these aggressive youth go on to engage in criminal activity.

Robins (1966) said conduct-disorder in adolescence often predicts antisocial adult behavior. He also said that the symptoms of sociopathy appear before age 15 and that overestimation of his own potential adds to the adolescent's problem. He then added that self-destructive behavior and violence is common in youth during adolescence. In 1981, Eysenck too said that a percentage of conduct-disordered youth become antisocial as adults; he noted a correlation between feelings of insecurity and antisocial behavior on the one hand and aggression on the other.

Gersten, Langer, Eisenberg, Simcha-Fagan, and McCarthy (1976) showed an element of stability is children's aggressive and antisocial behavior. Robins (1979b) believed that aggression was the most persistent characteristic demonstrated over time, and found juvenile antisocial behavior to be the single most powerful predictor of adult psychiatric status. He believed it is difficult to predict which conduct-disordered youth will have the poorest prognosis, yet he felt that half of those in his study would continue their difficulties, while the other half would not be delinquent nor become antisocial personalities as adults.

Frank and Quinlan (1976) believed that aggressive behavior gives the youth a certain amount of pleasure and a feeling of power.
In the late 1980s, Wolman (1987) said the same thing about the sociopathic adolescent.

The earlier positions of Hewitt and Jenkins (1946) and Wolff (1971) were refined by West and Farrington (1977) who believed there is a distinction between boys who are aggressive and delinquent and those who are primarily delinquent or primarily aggressive. Finally, Moore, Chamberlain, and Mukai (1976) found evidence that aggressive children are often less delinquent as adolescents than those who steal, and Nylander (1979) believed aggressive youth tend to become alcoholic in adult life.

Healy and Bronner (1936) found no difference in health and general development between delinquent and nondelinquent siblings. However, they did not verify any difference in intellectual development. Later Glueck and Glueck (1950) found that delinquency is associated with low intelligence. Glueck and Glueck’s position was supported by Hayes, Solway, and Schreiner (1978), who pointed out that violent offenders tend to be less intelligent than nonviolent offenders.

Schizophrenia and Conduct Disorder

At the beginning of this section, which reviews the literature linking conduct disorder to schizophrenia, it might be helpful to note an aspect of the criteria for schizophrenia used in the United States which differs from the criteria used in Europe. Kendell, Cooper, Gourley, and Copeland (1971) pointed out that the criteria for schizophrenia in the United States includes severe character disorder whereas in Europe schizophrenics are seen as
underactive and socially withdrawn. As a part of the criteria for schizophrenia, severe character disorder opens the door for conduct disorder to be viewed by some researchers (Lewis et al., 1984; DSM-III-R) in the 1980s as a step toward schizophrenia. In the 1970s schizophrenia was aligned more closely with character disorders and conduct disorder whereas, prior to this, schizophrenia was viewed as social withdrawal.

In the mid 1980s, Stone (1986) outlined a scale with borderline personality midway between neurosis and psychosis. Prior to this, Masterson (1972) stated that borderlines fail in separation individuation, and that, as a result of separation, the child feels abandoned. This separation should take place at about 18 to 36 months. When the developmental task does not take place, the feeling of abandonment, depression, and narcissistic personality can result. Many conduct-disordered youth demonstrate these same symptoms.

Adler (1973) investigated the borderline personality. He revealed that borderlines demonstrate a readiness to form intense engulfing relationships which were demanding and dependent. Only later would this pattern of behavior be investigated in connection with conduct disorder.

In 1973 Eysenck noted similar situations identified in an earlier study involving both aggressive youth and the development of schizophrenia. Goldstein (1965) had outlined a theory demonstrating that schizophrenic patients tended to be overaroused and seemed to sustain this state of excitation.
Hyperactivity and Conduct Disorder

In the 1970s a great deal of interest was generated around issues related to hyperactivity. Cohen, Weiss, and Minde (1972) described the persistence of impulsivity in hyperactive adolescents, especially when they were required to attend to visual detail. They also found the boys in this study to be sad, pessimistic, and depressed. Low self-esteem appeared to accompany hyperactive adolescents. These same symptoms were most often found in conduct-disordered youth (Eysenck, 1977).

Wender (1971) said that investigating hyperactivity in adolescence is important because, although the form usually changes, many of the main problems persist throughout adult life. Weiss and Hechtman (1979) also believed that hyperactivity symptoms appear to persist into early adulthood and perhaps later. Their work contributed to the controversy in the early 1980s over the multiple etiology of hyperactivity. Stewart, Mendelson, and Johnson (1973) demonstrated in their study that hyperactivity often progresses to antisocial behavior. Ross and Ross (1982) later contradicted this view.

Cantwell (1979) believed that diagnosis of hyperactivity should be based on history, not on any single observation, because so many hyperactive youth do well on a one-to-one basis, but many are deviant in a group setting. This deviant behavior often results in the label of conduct disorder.

Thomas and Chess (1977) noted definite signs of hyperactivity in infancy. This study would have implications for learning theory versus a neurological genetic component. Lambert, Sandoval,
and Sassone (1978) demonstrated that boys outnumber girls six to one in the hyperactivity group. Wender (1975) pointed out that hyperactivity is the most common behavior disorder in the preadolescent group. All of these issues were carried further and are tied to conduct disorder during the 1980s. Sandberg, Rutter, and Taylor (1978) and Shaffer and Greenhill (1979) believed conduct disorder and hyperactivity have the same etiology and prognosis; Barkley (1981) disagreed. He believed there are definite behavioral differences in the disorders of hyperactivity and conduct disorder.

Loney, Langhorne, and Paternite (1978) and Prinz, Connor, and Wilson (1981) worked to differentiate between purely hyperactive and purely aggressive youth and those who were both hyperactive and aggressive.

Environment and Conduct Disorder

The relationship between conduct disorder and environment, identified early by Healy and Bronner (1936) and Bender (1953), received further attention during the 1970s. In 1972, Offer, Ostrov, and Marohn investigated levels of delinquency within different socio-economic classes. Their study demonstrated that delinquency is not a class phenomenon, but rather the result of emotional turmoil which in some cases includes anxiety. Rutter (1972) demonstrated that some anxiety is caused by environmental stress; other researchers demonstrated both continuity and progression of anxiety, showing that anxiety escalates with time.

In 1974 and 1975 Crowe published studies supporting the hypothesis that genetic factors influenced the level of sociopathy.
more than environment. Eysenck (1977) similarly suggested a predisposition in certain youth toward rapid development of cortical inhibition. He said sociopaths learn slowly and forget quickly. Reid (1978) stated that clinical features of sociopathy can be produced in the brain, but that not all antisocial behavior is sociopathic. Reid's position contradicted the idea that conduct disorder is a result of the environment.

Lefkowitz, Eron, Walder, and Husemann (1977) did a 10-year follow-up study of 875 boys and found that antisocial, violent behavior is the product of environmental influences—a connection between TV violence and violent behavior is shown—and learning process. In particular, parental rejection appeared to be related to violent behavior in the boys. Stewart, Adams, and Meardon (1978) supported this work when they discovered that separation from antisocial parents helped the boys in their study to improve their behavior.

Summary

During the 1970s the literature showed an increased emphasis on the relationship between environmental influences and the development of aggressive behavior. Genetic factors were not denied, but an awareness of the importance of the environment developed. Hyperactivity, often accompanied by aggression, was more seriously implicated as a factor contributing to conduct disorder.
By 1980 research patterns were clearly developing in areas specifically tied to conduct disorder. The areas selected for this study are related to the 1980 DSM-III outline of conduct disorder.

Conduct Disorder

There was dissent against DSM-III's criteria for conduct disorder. Lewis et al. (1984) insisted that there are scientific and therapeutic disadvantages to DSM-III's criteria for conduct disorder, and that the criteria tend to obscure signs and symptoms of treatable neuropsychiatric conditions.

Lewis et al. had questions about labeling adolescents as conduct-disordered. They pointed out that the symptoms of conduct disorder are shared with other psychiatric disorders, such as aggressiveness, which is one behavior shared with many other disorders. In addition, they believed that violence alone is not a valid diagnostic characteristic distinguishing conduct disorder, and that conduct disorder is often an interim designation on the way to a more rigorous diagnosis which would do away with the diagnosis of conduct disorder altogether.

Kelso and Stewart (1986) disagreed with Lewis et al. They offer evidence that aggressive conduct disorder is a valid psychiatric syndrome. They think the outcome of conduct disorder is established: one-fourth to one-half of the conduct-disordered youth go on to become antisocial adults. Kelso and Stewart also demonstrated that aggression is stable and likely to persist throughout adolescence and adulthood. They placed an emphasis on the number of
symptoms and found firesetting to be a powerful predictor of conduct disorder.

Research began to relate conduct disorder to other behaviors besides aggressiveness and violent behavior. Cummings and Finger (1980) outlined juvenile delinquency as covering many disorders; they used the term conduct disorder to describe minimal brain dysfunction. Others saw an overlap between attention-deficit disorder and conduct disorder. Barkley (1981) said conduct disorder and hyperactivity do not have the same prognosis (Barkley used the terms hyperactivity and attention deficit interchangeably). Loney, Kramer, and Melich (1981) said hyperactive youth are apt to become delinquent.

Schizophrenia and Conduct Disorder

Conduct-disordered adolescents often display many of the same symptoms as the borderline personality. Stone (1986) outlined a scale with borderline between the neurotic and the psychotic. He described two kinds of borderlines, one with a family history of schizophrenia and the other with relatives who are hysteric depressives. Gunderson and Singer (1986) pointed out that depression is not always present in borderline individuals, but usually loneliness, helplessness, and anxiety are present. He stated further that borderlines may develop pathogenic features, and that the difference between borderline and schizophrenic individuals is in reality testing: both share a poor sense of reality, but the borderline person can test out his experience and the psychotic cannot.
Kernberg (1986) outlined a theory he called psychostructural. It related to personality organization. The borderline person is in an intermediate position between neurotic and psychotic organization. Reality testing separates the two. Gunderson and Singer's (1986) criteria for borderline diagnosis was really an outgrowth of Grinker's model and resembles Kernberg's description of the borderline individual. Spitzer, Endicott, and Gibbon (1986) developed a list of symptoms that separates the borderline from the schizophrenic individual. The borderline is defined psychostructurally by Kernberg and phenomenologically by Grinker, Gunderson and Singer, and Spitzer et al.

Lewis et al. (1984) believed that conduct disorder is an intermediate step toward schizophrenia. The DSM-III-R stated that conduct disorder and antisocial personality can evolve into schizophrenia. Benedetti (1987) believed schizophrenia is caused by an interplay of hereditary predisposition and dangerous life experiences, and he suggested a link between schizophrenia and psychopathology which involves weak ego development. He noted that psychopathological factors alone cannot account for schizophrenia; he credited one's understanding of the biological factors and psychological factors but asserts that people are unknowledgeable about their interaction. It is hard to separate etiology and pathogenesis in schizophrenia.

Strauss and Carpenter (1981) showed that poor living conditions play an important role in the etiology of schizophrenia. In the literature of the 1970s, researchers also saw a relationship between environment and the development of conduct disorder.
Strauss and Carpenter suggested that cross interdisciplinary integration of theories is needed to establish a cause and outline a treatment for schizophrenia. They cited changes in physiological systems as one theory. Their adaptation model assumes multiple interaction. Adaptive functions may be biological reactions to events that are internal or external. Antipsychotic medication fits several models but is not a focal point since it is believed to be less significant for the conduct-disordered youth.

Eaton (1986) and Kringlen (1986) suggested that the risk factor for schizophrenia is dependent upon the number of relatives who have the disease and how close the relationships are, because the gene may be carried but not expressed. Cancro (1985) discussed both the environment and biological factors and believed both can contribute to schizophrenia. M. Seeman (1985) described the left brain of schizophrenics as being different from the normal brain and suggested there may be poor interhemispheric transfer. EEG studies demonstrate similarities between conduct-disordered youth and schizophrenic adults (Selin & Gottschalk, 1983).

Hyperactivity and Conduct Disorder

August, Stewart, and Holmes (1983) showed that initial antisocial behavior does carry prognostic weight. Their subjects, having a mean age of 14 were of two types: one group presented a picture of aggressive conduct disorder during childhood; they were overaggressive and antisocial as adolescents. The other boys were hyperactive but showed no conduct disturbance. Instead, they had
cognitive problems but showed little sign of attention-deficit dis-
order or impulsivity. Loney, Kramer, and Melich (1981), however,
found an overlap between youth who are hyperactive and those who had
trouble with the law.

Ross and Ross (1982) described the secondary symptoms of
hyperactivity as poor social interactions with peers, often being
aggressive. They believed there is no common cause for hyperactivity
because it is not a disease, but a behavior disorder.

August et al. (1983) followed a group of conduct-
disordered, hyperactive boys with aggressive diagnosis and another
group who were simply hyperactive. Both groups had been hospital-
ized. Eleven of 30 conduct-disordered boys who were aggressive
still had the problem after four years. None of the purely hyperac-
tive became conduct-disordered.

Environment and Conduct Disorder

The Henn et al. (1980) study indicated a relationship between
low socioeconomic class and aggression. Stewart and de Blois (1985)
criticized this study and its results because it failed to control
for the degree of misconduct.

found that males who are aggressive tend to drink more and tend more
toward alcoholism than do nonaggressives. They also found that
aggression precedes delinquency. Eron and Huesman (1983) found that
antisocial personality is greater among aggressive youth.

Sorrels (1980) theorized that violent behavior in children
and adolescents is related to sociocultural environment where little
value is placed on life. Paternite and Loney (1980) believed that aggressive behavior in older children is the single most significant predictor of adolescent delinquency. Kelso and Stewart (1986), however, believed that characteristics of youth play a more important role in conduct disorder than do environmental factors.

Osborn (1980) and West (1982) believed disruptive school behavior and criminal parents predict recidivism. Moving away from their associates and locality help most to prevent recidivism. Behar and Stewart (1982) found that boys who improved often had stepfathers, new male role models who were not antisocial or alcoholic. Biju, Stewart, Brown, Golding, Butler, and Rush (1983) and Langley, McGee, Silva, and Williams (1983) found an association between accident proneness and aggression in boys. Stewart and Behar (1983) found aggressive children to be more responsive to psychological treatment than those who were both aggressive and antisocial.

Behar and Stewart (1982) concluded that social class, sex, and age do not affect the clinical picture very much, although sex does affect the outcome more than social class. They believed aggressive conduct disorder to be a valid psychiatric syndrome. Skilbeck, Acosta, Yamamoto, and Evans (1984) concluded that not enough attention went into the way different ethnic groups report psychiatric problems. In this study Blacks reported fewer symptoms than Whites or Hispanics on the SCL-90-R.

Monahan (1981) thought predictions can be made based on psychological tests. He believed, however, a family history must accompany the test results, and that peers and the environment must
be taken into account. This study demonstrated that the person's interaction with the environment is the key determinant of violent behavior. Syverson and Romney (1985), however, concluded that projective tests do not predict violence with any degree of accuracy. They also believed extroversion is of value in predicting violent behavior. However, Eysenck's Personality Questionnaire was used by Berman and Palsey (1984) and their results differed from Syverson and Romney's.

Eysenck (1981) pointed out that the severity of conduct among juveniles is correlated with psychoticism and extroversion. She also referred to the characteristics of impulsivity and venturesomeness. Palsey and Palsey (1982) and Raine et al. (1982) suggested juvenile misconduct has a dimensional structure parallel to that of adults.

Wolman (1987) believed there are sociological delinquents who are not pathological, who simply come from a background that ignores the law and moral standards. This belief equates with that of learned behavior. He referred to others whose research confirmed his: Erikson and Empey (1965) who found no difference between middle and lower class as far as sociopathic behavior is concerned, but the upper class has less delinquency than the middle or the lower classes. Within the lower class, behavior often relates to parental rejection and lack of discipline. Cohen (1955) found that frustration in the lower class turns to reaction formation or rebellion against the middle class. Stanfield (1966) found delinquency related to parental rejection and lack of discipline. Speigel (1967) found
delinquent subcultures arising in response to everyday problems in the lower class.

Anxiety and Conduct Disorder

It has been demonstrated that both depression and anxiety often accompany conduct disorder (Wolman, 1987). Hamilton (1982) dealt with the overlap between anxiety and depression. Scrignar (1983) cited Bender (1953) to support his belief that there is a predisposition toward pathologic anxiety. He pointed out that panic attacks do not occur without warning. Autonomic hyperactivity is a prerequisite for the development of a panic attack. People who are in a mild state of anxiety continually have been overalerted to danger as children. Anxiety is always pathologic if intense or persistent; it is also pathological if the individual is nonfunctional, even if the anxiety is adaptive behavior. Pathological anxiety may be genetic, environmental, or both.

Beeghly (1986) spoke of anxious children who become anxious adults. Obsessive compulsive and panic disorders can begin as early as the time of separation anxiety and persist into adulthood. Goodwin and Guze (1984) described a genetic component to anxiety neurosis as a family condition. Torgersen (1983) reported twin studies in which there is twice the rate of anxiety in monozygotic twins than in dizygotic twins. Nesteros (1984) and Marx (1984) presented a theory of anxiety in which some cases appear to be the result of the environment and others demonstrate continuity and progression.

Scrignar's (1983) description of anxiety behavior and its
relation to pathology would certainly apply to the conduct-
disordered adolescent who suddenly found himself incarcerated. Nies, 
Howard, and Robinson (1982) suggested the use of Monoamine Oxidase 
recommended treating anxiety with diazepam because it bolsters 
confidence and reduces anxiety while the beta-adrenergic blockage 
does not interfere with critical faculties or judgment.

The topic of medicating incarcerated youth is very controver-
sial, whether the problem is anxiety or violent behavior. Because 
drug abuse is so common, it is impossible to determine what other 
drugs may already be present. Monitoring blood levels is essential 
in all conduct-disordered adolescents who are incarcerated.

Depression and Conduct Disorder

Depression is the most common symptom among conduct-
disordered adolescents who become incarcerated. In their new set-
ting, they lack coping skills to replace their usual manipulative 
behavior which is now ineffective.

Glazer, Clarkin, and Hunt (1981) identified depression as the 
most common psychological disorder. Rapaport (1986) described an 
ego state that is the essence of depression. Helplessness is the 
focal point of this theory. Lewinsohn (1986) represented the 
behavioral approach to depression; he described depression as a 
state which fluctuates over time, and as a trait which some people 
are more prone to than others.

Kovacs and Beck (1986) believed cognitive changes cause 
depression. They illustrated the experience of the conduct-
disordered adolescent when they described a person as feeling bad, thinking he is sick, weak, or inadequate. He thinks he is bad or unlikable. Lewinsohn (1986) pointed out that Schachter and Singer (1962) wanted to teach the person to relabel. If the individual can say he feels bad because he lacks something he needs, then he is in a better position to help himself.

Beach, Abramson, and Levine (1981) described depression as being like a fever: it is biological and psychological. They combined many theories to account for depression and called this combination a model theory.

Antisocial Personality and Conduct Disorder

The last area surveyed, because of its relationship to conduct disorder, is that of the antisocial or the sociopathic personality. Building on previous studies, Eysenck (1981), Eysenck and McGurk (1980), Rushton and Chrisjohn (1981), and Saklofske and Eysenck (1980) believed that antisocial juvenile behavior, including impulsivity and venturesomeness, correlated in a very positive way with the personality dimensions of psychoticism and extroversion. Twito and Stewart (1982) found that specific patterns of psychiatric disorders existed in the relatives of the boys they investigated. Stewart and de Blois (1981) found evidence that antisocial fathers are strongly associated with aggressive conduct disorder in boys in the low socioeconomic class.

Edmunds and Kendrick (1980) demonstrated that psychoticism is a central component in criminality, but it is not an indicator of a
disposition to violent behavior. Berman and Paisey (1984) investigated the relationship between antisocial behavior and the personality of juvenile subjects convicted of confrontational or assaultive crimes. Juveniles convicted of assaultive crimes demonstrated higher psychoticism, extroversion, and neurotic scores, and lower lie scores than the youth that were convicted of destruction of property.

In 1980, Mednick and Christiansen (1980) found a higher correlation between sociopaths and their biological parents than there is with adoptive parents. Mednick, Schulsinger, Higgens, and Bell (1986) indicated that all psychopathology, including minimal brain dysfunction, is the result of interaction between genetic, parental, and environmental factors.

Allison and Harmala (1981) observed that not all adolescent murderers are sociopathic, but that only sociopaths commit deliberate, planned murder. The sociopathic adolescent develops resentment against whomever does not satisfy his narcissistic needs. According to Allison and Harmala, 42% of adolescent murderers are paranoid schizophrenics, and 39% are sociopathic. Wolman (1987) pointed out that as early as 1935 Aichhorn, and later Glover (1960), proposed a theory that attempted to account for adolescent murder as an unresolved Oedipal wish to kill the parent.

Wolman (1987) stated firmly that not all antisocial and self-righteous youth are sociopaths, but that all sociopaths are antisocial and self-righteous. According to Wolman, sociopaths are parasitic; expect the entire world to act as a milk-giving mother; are incapable of self-criticism; are occupied with pleasure-seeking and immediate gratification; and may combine sex with violence.
They lie intentionally for self-gain. They are convinced that everyone is a liar. Rape gives them the double pleasure of sex and power. They take advantage of the helpless. Investigation indicated that EEG data and cardiovascular activity of sociopaths appear significantly different when compared with normal individuals.

Summary

The effect of the environment upon the development of pathology became controversial during the 1980s. Studies to support the idea that the environment contributes heavily to the development of pathology and those studies which show that it makes little difference have been cited. Conduct disorder began to be taken more seriously. The view on hyperactivity has changed: it is now seen as a serious problem as well as a factor contributing to other more serious conditions. Anxiety and depression are now linked to conduct disorder. The progression of conduct disorder to antisocial personality and schizophrenia is still controversial.

Conclusion

This review of relevant literature on conduct disorder over a 50-year period presents the following facts: The general attitude prior to the 1960s was that conduct disorder was learned as a result of modeled behavior. During the 1980s conduct disorder is viewed more seriously by some as a progression that could lead to antisocial personality as an adult, and that could even progress to schizophrenia. Anxiety and depression have become linked to conduct disorder in this decade.

Hewitt and Jenkins (1946) were ahead of their time in
thinking that aggressive behavior and delinquency were independent of each other. It was during the 1960s that interest increased in aggressive behavior and that a correlation between aggressive behavior and antisocial behavior was noted. By 1986, Kelso and Stewart were saying that aggressive conduct disorder is a valid psychiatric syndrome.

Attitudes toward hyperactivity have changed greatly since 1957 when Bradley suggested that the prognosis for a hyperactive child was good and since professionals were saying children would outgrow this problem. Although Eisenberg (1966) was suggesting a positive prognosis, others were beginning to doubt this. During the 1970s hyperactivity was viewed as a more serious condition contributing to the development of conduct disorder, often accompanied by aggression. During the 1980s this progression developed into the now more firmly established attitude that hyperactivity contributes to serious problems.

Interest in the environment and its effect upon the development of delinquency—strongest during the 1970s and more controversial in the 1980s—has continued into present studies.
CHAPTER III

METHOD

Introduction

This chapter discusses the methods selected to test the six hypotheses proposed by this study. First, the rationale for the selection of the instrument used to test this study's hypotheses is detailed and is followed by a description and critique of the instrument. The pilot study, which led both to the choice of this study's topic and to the selection of the testing instrument, is then explained. The selection of the subjects as well as the procedures for data collecting and data handling are introduced; and finally, a discussion of the data analysis, which includes an explanation of how each hypothesis was tested, concludes the chapter.

Instrument

Several instruments were considered before choosing one that would best assess aggressive and nonaggressive behavior in conduct-disordered adolescents. Hostility scales were considered but did not provide enough information on the range of categories that help to identify aggressive conduct disorder. The Brief Psychiatric History was rejected because many areas of this instrument are not of major concern to this study. Eysenck's Personality Questionnaire
was rejected due to conflicting results in studies already completed (Edmunds & Kendrick, 1980).

The SCL-90-R, developed under the direction of Leonard R. Derogatis, was selected because of (1) its wide use in psychiatric settings, (2) its acceptance by clinicians, (3) its standard scores in nine specific areas, (4) its global indices, (5) its reliability and validity, (6) its convenience to administer and score, (7) its ready availability and reasonable price, and (8) the availability of information from the test designer regarding procedures used for tables in the manual.

Description of the SCL-90-R

The SCL-90-R is a multidimensional self-report symptom inventory designed to measure levels of symptomatic psychological distress. This instrument indicates psychopathology by nine primary dimensions and three global indices of distress. The nine primary symptom constructs are Somatization (SOM), Obsessive-Compulsive (OC), Interpersonal Sensitivity (IC), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY).

The three global indices are summary measures of psychological disorders. Although correlated, they have displayed distinct aspects of psychopathology. The Positive Symptom Total (PST) is a simple count of the number of symptoms reported as positive. The Global Severity Index (GSI) provides information concerning the combined numbers of symptoms as well as the intensity of distress,
and a pure intensity measure is found in the Positive Symptom Distress Index (PSDI).

A discrete 5-point scale ranging from "not-at-all" (0) to "extremely" (4) represents distress for each item on the SCL-90-R. Only 83 of the 90 items comprise the nine symptom dimensions. Seven additional items were introduced because they contributed significant discriminatory power in the clinical situation. Not conceived as integral to the dimensional structure of the test, these items do not have univocal loadings on the primary symptom dimensions but are used instead in a configurational manner with the dimension and global scores (Derogatis, 1977/1983).

The published norms for the SCL-90-R are for (1) psychiatric outpatients, (2) psychiatric inpatients, (3) adult non-patient normals, and (4) adolescent non-patient normals. Separate norms are available for men and women; they represent the raw score distributions of the nine symptom dimensions and three global indices in terms of area T-scores (Derogatis, 1977/1983).

The SCL-90-R has demonstrated high levels of both internal consistency and test-retest reliability. In 1977 Derogatis reported coefficient alphas between .77 and .90 for the primary symptom dimensions. The test-retest coefficients were between .78 and .90.

Validation of this instrument has been approached in a "programmatic" fashion using many populations and methods. Derogatis, Rickels, and Rock (1976) showed a very high convergent and discriminant validity between the MMPI and the SCL-90-R.

The SCL-90-R has been used extensively in measuring psychotherapeutic outcome regarding change, in assessment to help in
diagnosis in psychiatric settings, and in medical situations in which a clinical assessment was needed.

Critique of the SCL-90-R

Payne (1985) and Pauker (1985) have written critiques of the SCL-90-R. Payne pointed out that an analogue on the SCL-90-R is available and in it is a definition of psychoticism, one category of the instrument that is important for this study, which represents a continuum ranging from a mildly alien lifestyle at one extreme to a floridly psychotic status at the other. He noted that the SCL-90-R is a brief scale in comparison to the Minnesota Multiphasic Personality Test (MMPI). Although some factors, such as hostility and paranoid ideation, are measured by as few as six items, Payne pointed out that its reliability is remarkably high. Measures of factor internal consistency (alpha coefficients) range from .77 (Psychoticism) to .90 (Depression), and test-retest scores range from .78 (Hostility) to .90 (Phobic Anxiety) in a psychiatric population.

Besides its use with psychiatric populations, the test has been used to evaluate the effects of psychological stress associated with death, disaster, rape, pain, chronic tension headaches, cancer, and anorexia nervosa.

Payne believed the most impressive research done with the SCL-90-R involved depression. The factor score was found to be correlated with other measures of depression such as Beck's Depression, the Dempey D-30 Depression Scale, Weissman and Beck Dysfunctional Attitudes Scale, the Zuckerman and Lubin Multiple Affect...
Adjective Check List, the Raskin Depression Screen, the Hamilton Depression Rating Scale, and the CES-D Depression Scale.

According to Payne, these results have led Derogatis to conclude that the SCL-90-R depression scale has shown a degree of convergent validity. The convergent validity of the SCL-90-R was generally supported by findings that somatic symptoms, obsessive-compulsive, depression, free-floating anxiety, phobic anxiety, paranoia, and the global scores of the Middlesex Hospital Questionnaire were each significantly correlated with the respective Somatization, Obsessive-Compulsive, Depression, Anxiety, Phobic Anxiety, Paranoid Ideation, and Global Severity Index of the SCL-90-R.

Pauker's evaluation of the SCL-90-R was similar to that of Payne. Although he did not recommend the SCL-90-R for clinical diagnostic purposes, he believed it could be very effective in research studies and in evaluating changes in symptoms produced by treatment.

Pauker further stated that there were few validity studies with the SCL-90-R, but that the few demonstrated levels of concurrent, convergent, discriminant, and construct validity were at levels comparable to other self-report inventories. He criticized the instrument's ability to distinguish between the anxiety and depression scales and was concerned that the test measures nothing beyond psychiatric disturbance.

**Pilot Study**

The literature review revealed a growing belief (Behar & Stewart, 1984; Kelso & Stewart, 1986; Stewart & de Blois, 1985) that
aggressive conduct disorder is a valid psychiatric syndrome. A small pilot study was conducted using the SCL-90-R to test the validity of this theory by observing whether a difference between aggressive and nonaggressive conduct-disordered youth existed in the area of psychoticism. Fifteen male subjects between the ages of 15 to 17 years were involved, 8 aggressive and 7 nonaggressive. All subjects were being detained awaiting trial.

When the 15 subjects were checked for the degree of psychoticism, the 8 aggressive conduct-disordered youth scored consistently above the 70th percentile (a T-score of 55). The 7 nonaggressive youth scored below the 70th percentile.

Derogotis has established a GSI T-score of 63 and above, or any two primary dimension T-scores of 63 or above, as consideration for positive diagnosis for adult males. No T-score has been established previously for male adolescents. Therefore, on the basis of the pilot study, a T-score of 55 (70th percentile) was set for evaluating aggressive and nonaggressive conduct-disordered youth in the area of psychoticism. Future studies may show that this T-score may need adjustment; however, at this point a T-score of 55 serves to show whether aggressive conduct-disordered youth score significantly higher in psychoticism than do nonaggressive conduct-disordered youth.

Subjects

Male subjects with a mean age of 16 years, who had been diagnosed as conduct-disordered on the basis of the DSM-III criteria, were administered the SCL-90-R consecutively upon intake until 130
test results were obtained. Sixty-two were diagnosed as aggressive and 68 as nonaggressive. As pointed out in Chapter 1, the revised edition of the DSM-III was not available when the SCL-90-R was administered. The subjects came from a detention center for adolescents, from an outpatient mental-health clinic, and from private practice. This population represents a broad base, but may not represent all youth with conduct disorder.

Those from the detention center were boys from urban areas waiting to go to trial or committed to the state and waiting either for residential placement, placement in a specific vocational program, or placement in a residential drug-treatment facility. The outpatient clinic offers a full range of services to an urban and suburban population.

In evaluating the data, no attempt was made to separate the outpatient subjects from those in the detention center. Subjects were screened for the study by professionals within the institutions, and the researcher met with committees in both facilities to insure standardization in the administration of the SCL-90-R.

Boys in the study represented intact and single-parent homes. One third of the youth were first time offenders; the remainder had prior and multiple charges ranging from attempting to steal a car to murder I.

Data Collection Procedures

The 130 male subjects, who had been interviewed by mental-health personnel and already diagnosed conduct-disordered,
aggressive or nonaggressive, socialized or undersocialized, were administered the SCL-90-R. Many, but not all, subjects were subsequently administered a full psychological battery.

Subjects were omitted from the study if their reading level, which was determined on an individual basis by the subject's demonstration of ability to a psychologist, was not sufficient to understand the statements on the SCL-90-R. Subjects were also omitted from the study if they were on medication for an emotional disorder, or if they demonstrated evidence of neurological problems such as a history of seizures.

The completion of the SCL-90-R self-report took place under the direction of the investigator and other psychologists. An intake worker, who met with the investigator to insure standardization, screened subjects at the outpatient mental-health clinic. Outpatient subjects completed forms giving permission to test, and detention residents, who had not been committed to the Department of Human Services, completed permission-granted forms. Subjects were instructed to consider their feelings over the past week before they registered their responses. All subjects, whether they completed the SCL-90-R individually or in small groups of three or four, received individual supervision in completing the questionnaire.

Data Handling

The responses of each subject were tallied by hand. The raw scores for each of the nine primary symptom constructs and the three global indices were converted into T-scores and plotted on a profile.
The raw scores for the 130 subjects were entered into the computer and checked twice for accuracy.

**Data Analysis**

An outline of the analytic procedures, a statement of the hypotheses, and a description of test methods used in this study are outlined in this section.

First, the t-test and the Chi-square test are used to compare aggressive and nonaggressive subjects in specific categories thought to relate more specifically to conduct disorder. For example, since aggressive youth vent their hostility in aggressive acts, do they score significantly lower in hostility than nonaggressive youth, who may suppress their feelings of hostility?

Second, stepwise regression and best subsets regression are used to predict a model of conduct disorder. If the best subsets model confirms the model predicted by stepwise regression, a reliable model of the conduct-disordered subjects in this study will be available.

Third, correlation testing is used to investigate the relationship between each of the 10 items in the Psychoticism and Obsessive-Compulsive categories and their respective raw scores, and to determine which items contribute most to identifying psychoticism and obsessive-compulsive behavior on the SCL-90-R.

**Hypotheses Testing**

**Hypothesis 1:** There will be no difference between aggressive and nonaggressive conduct-disordered adolescents as to scoring above the 70th percentile in the category of Psychoticism. Chi square is
used to test the difference in the proportion of subjects who score above the 70th percentile (raw score of .58) in the category of Psychoticism.

Hypotheses 2 to 5: There will be no differences between aggressive and nonaggressive conduct-disordered adolescents in hostility, depression, anxiety, and on the Global Severity Index. The t-test is used for these comparisons. Not only will the differences between aggressive and nonaggressive conduct-disordered subjects in the categories of Hostility, Depression, and Anxiety be identified as significant or not significant, but differences in the number of symptoms and the severity of distress will be identified.

Hypothesis 6: There will be no relationship between the nine categories when considering which contribute most to explaining conduct disorder. Stepwise regression is used to identify a model of conduct disorder from the nine categories on the SCL-90-R. The best subsets regression is used to check the model demonstrated by the stepwise procedure.

Summary

This chapter described the data-gathering instrument, the pilot study, the subjects, the data collection, and the data handling used for this study. The chapter also specified the analysis of the data as well as the methods employed to test the study's hypotheses.
CHAPTER IV
PRESENTATION AND ANALYSIS
OF DATA

Introduction
This chapter presents the statistical findings from testing the six hypotheses proposed in this study. Each hypothesis is presented with the statistical results upon which the hypothesis is either accepted or rejected.

Statistical Analysis of the Hypotheses
Hypothesis One

Hypothesis
There will be no difference between aggressive and nonaggressive conduct-disordered adolescents scoring above the 70th percentile in the category of Psychoticism.

Findings
Research studies suggest that aggressive conduct disorder may be a valid psychiatric syndrome (Behar & Stewart, 1981; Kelso & Stewart, 1986; Stewart & de Blois, 1985). Therefore, it was anticipated on the basis of this research that the majority of the aggressive conduct-disordered adolescents would score at the 70th

55
percentile (see Chapter 3) or higher in the category of Psychoticism on the SCL-90-R.

Hypothesis one was tested by using the Chi-square test to determine the percentage of subjects having a raw score of .58 (70th percentile) or above, and the percentage scoring below .58. Among the aggressive conduct-disordered youth, 16.1% scored below .58, and 83.9% scored .58 or above. Among the nonaggressive conduct-disordered youth, 82.4% scored below .58, and 17.6% scored .58 or above (see Table 1). Probability is 0.00.

TABLE 1

<table>
<thead>
<tr>
<th>CHI-SQUARE TEST FOR PSYCHOTICISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less Than .58</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>Aggressives</td>
</tr>
<tr>
<td>Nonaggressives</td>
</tr>
</tbody>
</table>

Because of the large difference between the percentages of aggressive and nonaggressive conduct-disordered adolescents who scored .58 or above, hypothesis one is rejected.

Hypothesis Two

Hypothesis

There will be no difference between aggressive and nonaggressive conduct-disordered adolescents in the category of Hostility.
Findings

Hypothesis two was tested by using the t-test. With 128 degrees of freedom, the table t-value at the .001 level is 3.29. Hostility has a t-value of 5.45; therefore, there is a significant difference between aggressive and nonaggressive conduct-disordered adolescents in the category of Hostility. The aggressives have a mean of 1.31, and the nonaggressives .62 with a mean difference of .69 (see Table 2). The standard deviation for Hostility is .79, giving an effect size (d) of .87.

Cohen (1969/1971, pp. 22-25) suggests three levels of effect in evaluating the mean difference. The d is calculated by obtaining the difference of the means and dividing it by the standard deviation. A small d is placed at .20, medium at .50, and large at .80. The d for Hostility is .87, thus indicating a large mean difference between aggressive and nonaggressive conduct-disordered adolescents.

On the basis of a t-value of 5.45, a d of .87, and a p-value of 0.00, hypothesis two is rejected.

Hypothesis Three

Hypothesis

There will be no difference between aggressive and nonaggressive conduct-disordered adolescents in the category of Depression.

Findings

Hypothesis three was also tested by using the t-test. With 128 degrees of freedom the table t-value at the .001 level is 3.29. Depression has a t-value of 5.61; therefore, there is a significant
difference between aggressive and nonaggressive conduct-disordered adolescents in Depression. The aggressive youth have a mean of 1.35, and the nonaggressive .72 with a mean difference of .63. The standard deviation for depression is .70, giving a d of .90 (see Table 2); therefore, there is a large mean difference between aggressive and nonaggressive conduct-disordered adolescents.

On the basis of a t-value of 5.61, a d of .90, and a p-value of 0.00, hypothesis three is rejected.

Hypothesis Four

There will be no difference between aggressive and nonaggressive conduct-disordered adolescents in the category of Anxiety.

Findings

Hypothesis four was tested by using the t-test. With 128 degrees of freedom the table t-value at the .001 level is 3.29. Anxiety has a t-value of 7.53; therefore, there is a significant difference between aggressive and nonaggressive conduct-disordered adolescents. The aggressive conduct-disordered youth have a mean of 1.12, and the nonaggressive .43 with a mean difference of .69. The standard deviation for anxiety is .63 giving a d of 1.10 (see Table 2). There is a large mean difference between aggressive and nonaggressive conduct-disordered adolescents.

On the basis of a t-value of 7.53, a d of 1.10, and a p-value of 0.00, hypothesis four is rejected.
Hypothesis Five

Hypothesis

There will be no difference between aggressive and nonaggressive conduct-disordered adolescents on the Global Severity Index (GSI).

Findings

The GSI is a composite score that is the best indicator of the current degree of disorder and should be used as a summary measure. It combines information about the number of symptoms and the intensity of distress. Hypothesis five was tested by using the t-test. With 128 degrees of freedom the table t-value at the .001 level is 3.29. The GSI has a t-value of 9.31; therefore, there is a significant difference between aggressive and nonaggressive conduct-disordered adolescents on the GSI.

The aggressive conduct-disordered youth have a mean of 1.24, and the nonaggressive .53 with a mean difference of .71. The standard deviation for the GSI is .57 giving a d of 1.25 (see Table 2). There is a large mean difference between aggressive and nonaggressive conduct-disordered adolescents.

On the basis of a t-value of 9.31, a d of 1.25, and a p-value of 0.00, hypothesis five is rejected.
TABLE 2

RESULTS OF THE T-TEST

<table>
<thead>
<tr>
<th>Mean</th>
<th>Agg.</th>
<th>Nonagg.</th>
<th>t</th>
<th>Mean Dif.</th>
<th>SD</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOS</td>
<td>1.31</td>
<td>.62</td>
<td>5.45*</td>
<td>.69</td>
<td>.79</td>
<td>.87</td>
</tr>
<tr>
<td>DEP</td>
<td>1.35</td>
<td>.72</td>
<td>5.61*</td>
<td>.63</td>
<td>.70</td>
<td>.90</td>
</tr>
<tr>
<td>ANX</td>
<td>1.12</td>
<td>.43</td>
<td>7.53*</td>
<td>.69</td>
<td>.63</td>
<td>1.10</td>
</tr>
<tr>
<td>GSI</td>
<td>1.24</td>
<td>.53</td>
<td>9.31*</td>
<td>.71</td>
<td>.57</td>
<td>1.25</td>
</tr>
</tbody>
</table>

\*df=128
p<.001

Hypothesis Six

Hypothesis

There will be no relationship between the nine categories assessed when considering which contribute most to conduct disorder.

Findings

Stepwise regression using BMDF2R was used to choose the best model for conduct disorder and was verified by best subsets regression using BMDF9R. In stepwise regression the F to enter was set at 2.00, and the F to remove at 1.99.

In step one, Psychoticism was chosen with an F to enter of 95.70, having an R square of .4278 with 128 degrees of freedom.

In step two, Obsessive-Compulsive was chosen with an F to enter of 6.16, having an R square of .4543; the F to remove Psychoticism is 19.56. In step two, the standardized-regression coefficient for
Obsessive-Compulsive is .26, and Psychoticism is .46 (see Table 3).

In step three, Depression was chosen with an $F$ to enter of 2.08 and an $R$ square of .4631. The change in the $R$ square in the three steps for Psychoticism is .4278, Obsessive-Compulsive .0265, and Depression .0088. Because the effect of Depression is so small, it is omitted from the model; therefore, Psychoticism and Obsessive-Compulsive comprise the best model for predicting conduct disorder.

**TABLE 3**

MODEL FOR CONDUCT DISORDER

<table>
<thead>
<tr>
<th>Step</th>
<th>Var</th>
<th>$R^2$</th>
<th>Std Reg Cof</th>
<th>Change in $R^2$</th>
<th>$F$ to Enter</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PST</td>
<td>.4278</td>
<td>.46</td>
<td>.4278</td>
<td>95.70</td>
</tr>
<tr>
<td>2</td>
<td>OC</td>
<td>.4543</td>
<td>.26</td>
<td>.0265</td>
<td>6.16</td>
</tr>
</tbody>
</table>

The best model given by best subsets regression is the two-variable model of Psychoticism and Obsessive-Compulsive. An $R$ square of .4543 was obtained for this model; and the $t$-statistic for Psychoticism is 4.42 and 2.48 for Obsessive-Compulsive, both of which are significant at the .05 level with 128 degrees of freedom.

In the subset with the three variables of Psychoticism, Obsessive-Compulsive, and Depression, a model that is identical to step three in stepwise regression, the $t$-statistic for Depression is 1.44, which is below the table $t$-value of 1.96 for 128 degrees of freedom at the .05 level. Therefore, the subset with three variables is rejected, and the two-variable subset of Psychoticism and
Obsessive-Compulsive validates the model chosen in stepwise regression.

Psychoticism appears in all subsets constructed by best subsets regression. Obsessive-Compulsive appears in all subsets containing five variables or less. In the subset containing six variables there are eight possible combinations of the nine categories contained in the SCL-90-R. Obsessive-Compulsive fails to appear for the first time in the last of the eight combinations.

On the basis of stepwise regression and best subsets regression which agree in forming a model for conduct disorder containing the variables of Psychoticism and Obsessive-Compulsive, hypothesis six is rejected.

The 10 items in the Psychoticism and Obsessive-Compulsive categories are ranked according to their correlation with the total scores in each category and are presented here in Tables 4 and 5. The number of the item as it appears on the questionnaire is shown in parentheses following the rank number. A brief discussion of the data in each table is found in Chapter 5.
TABLE 4

RANKING OF TEN ITEMS IN PSYCHOTICISM CATEGORY

<table>
<thead>
<tr>
<th>Rank</th>
<th>Item No.</th>
<th>Item</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(90)</td>
<td>The idea that something is wrong with your mind</td>
<td>.6614</td>
</tr>
<tr>
<td>2</td>
<td>(62)</td>
<td>Having thoughts that are not your own</td>
<td>.6436</td>
</tr>
<tr>
<td>3</td>
<td>(77)</td>
<td>Feeling lonely even when you are with people</td>
<td>.6353</td>
</tr>
<tr>
<td>4</td>
<td>(87)</td>
<td>The idea that something serious is wrong with your body</td>
<td>.6159</td>
</tr>
<tr>
<td>5</td>
<td>(84)</td>
<td>Having thoughts about sex that bother you a lot</td>
<td>.6110</td>
</tr>
<tr>
<td>6</td>
<td>(16)</td>
<td>Hearing voices that other people do not hear</td>
<td>.6041</td>
</tr>
<tr>
<td>7</td>
<td>(88)</td>
<td>Never feeling close to other people</td>
<td>.5950</td>
</tr>
<tr>
<td>8</td>
<td>(35)</td>
<td>Other people being aware of your private thoughts</td>
<td>.5476</td>
</tr>
<tr>
<td>9</td>
<td>(7)</td>
<td>The idea that someone else can control your thoughts</td>
<td>.5320</td>
</tr>
<tr>
<td>10</td>
<td>(85)</td>
<td>The idea that you should be punished for your sins</td>
<td>.4581</td>
</tr>
<tr>
<td>Rank</td>
<td>Item No.</td>
<td>Item</td>
<td>r</td>
</tr>
<tr>
<td>------</td>
<td>----------</td>
<td>----------------------------------------------------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>1</td>
<td>(46)</td>
<td>Difficulty making decisions</td>
<td>.7197</td>
</tr>
<tr>
<td>2</td>
<td>(38)</td>
<td>Having to do things very slowly to insure correctness</td>
<td>.6383</td>
</tr>
<tr>
<td>3</td>
<td>(55)</td>
<td>Trouble concentrating</td>
<td>.6243</td>
</tr>
<tr>
<td>4</td>
<td>(45)</td>
<td>Having to check and double-check what you do</td>
<td>.5799</td>
</tr>
<tr>
<td>5</td>
<td>(51)</td>
<td>Your mind going blank</td>
<td>.5596</td>
</tr>
<tr>
<td>6</td>
<td>(28)</td>
<td>Feeling blocked in getting things done</td>
<td>.5515</td>
</tr>
<tr>
<td>7</td>
<td>(9)</td>
<td>Trouble remembering things</td>
<td>.5150</td>
</tr>
<tr>
<td>8</td>
<td>(1)</td>
<td>Repeated unpleasant thoughts that won't leave your mind</td>
<td>.4939</td>
</tr>
<tr>
<td>9</td>
<td>(65)</td>
<td>Having to repeat the same actions, e.g., touching, counting, washing</td>
<td>.4438</td>
</tr>
<tr>
<td>10</td>
<td>(10)</td>
<td>Worried about sloppiness or carelessness</td>
<td>.3563</td>
</tr>
</tbody>
</table>
Conclusion

On the basis of the findings, all six hypotheses are rejected. The data indicate that aggressive conduct-disordered youth are more psychotic than nonaggressive youth; they score much higher on the Global Severity Index; and they manifest greater depression, anxiety, and hostility. Both stepwise regression and best subsets regression indicate psychoticism and obsessive-compulsive behavior as being the best model to identify conduct disorder. A discussion of these findings follows in Chapter 5.
CHAPTER V

SUMMARY, DISCUSSION, AND
IMPLICATIONS

Introduction

This final chapter reviews the problems that are addressed in this study, the hypotheses, the methods used to test the hypotheses, and the tests results. Then a detailed discussion of the six hypotheses is given, followed by an analysis of the profiles of the aggressive and nonaggressive groups which is based upon the SCL-90-R test results, a discussion of the need for more specific criteria, a description of the characteristics of aggressive and nonaggressive conduct-disordered adolescents, the implications of this study, and finally, suggestions for future studies.

Problems Addressed in This Study

Dissatisfaction with the DSM-III classification of conduct disorder has led the editors of the DSM-III-R to group the socialized and undersocialized aggressive youth in the same category (Solitary Aggressive Type). However, the symptoms and behavior of aggressive and nonaggressive youth are so diverse, they may be better served by placement in totally separate categories.

Although there is a limitation in studies and a lack of data in the area of conduct disorder, there is enough research to
demonstrate a need for modification of the criteria for diagnosis. Whether the new criteria in the DSM-III-R satisfies this need is yet to be demonstrated.

Because conduct disorder has a multiplicity of signs and symptoms characteristic of other psychiatric disorders, misdiagnosis is a valid concern, and can lead to neglect of treatable neuropsychiatric conditions, as well as having implications for other areas of management, such as therapy.

**Methods and Findings**

The SCL-90-R was given to 130 male adolescents with a mean age of 16 years who were diagnosed as aggressive and nonaggressive conduct-disordered. The Chi-square test determined if there was a significant difference in the percentage of subjects in each group who scored at the 70th percentile or above in the category of Psychoticism. The t-test determined if there was a significant difference between the two groups in the categories of Hostility, Depression, Anxiety, and on the Global Severity Index. Stepwise and best subsets regression determined a model for predicting conduct disorder, and the correlation between each of the 10 items and the raw scores in the categories of Psychoticism and Obsessive-Compulsive was obtained.

Psychoticism and Obsessive-Compulsive make up the model for predicting conduct disorder. While 83.9% of the aggressive group scored at the 70th percentile or above in the category of Psychoticism, only 17.6% of the nonaggressive group scored that high. The t-test showed a significant difference between the two groups in
Hostility, Depression, Anxiety, and on the Global Severity Index. Also, high correlations exist between the 10 items and the raw score in the Psychoticism category (which also has an alpha of .79), while the correlation in the Obsessive-Compulsive category is not as high.

Hypotheses and Results

The first null hypothesis stated that there will be no difference between aggressive and nonaggressive conduct-disordered adolescents as to scoring at or above the 70th percentile in the category of Psychoticism. This hypothesis was rejected because the Chi-square test showed 83.9% of the aggressive group did score at the 70th percentile or above while 17.6% of the nonaggressive group scored that high.

Hypotheses two to five stated that there will be no difference between the aggressive and nonaggressive conduct-disordered adolescents' scoring in the categories of Hostility, Depression, and Anxiety, and on the Global Severity Index. These hypotheses were rejected because the t-tests showed a significant difference between the two groups in all four categories.

Hypothesis six stated that there will be no relationship between the nine categories when considering which contribute most to predicting conduct disorder. This hypothesis was rejected because stepwise and best subsets regression chose Psychoticism and Obsessive-Compulsive as a model for predicting conduct disorder.
Discussion of the Hypotheses

The following section of this chapter presents each hypothesis individually and discusses the results of its testing.

Hypothesis One

Hypothesis: There will be no difference between aggressive and nonaggressive conduct-disordered adolescents as to scoring above the 70th percentile in the category of Psychoticism. Berman and Palsey (1984), using Eysenck’s Personality Questionnaire, show that aggressive conduct-disordered youth score higher in psychoticism and sensation seeking than do nonaggressive conduct-disordered youth. The present study appears to correlate with Berman and Palsey’s study in this regard.

On the basis of the pilot study, it was believed that a significant number of subjects in the aggressive group would score above the 70th percentile in the category of Psychoticism. Therefore, the results of the Chi-square test that measured hypothesis one were anticipated. In the aggressive group, 83.9% had a raw score of .58 (70th percentile) or above. In the nonaggressive group 17.6% scored above the 70th percentile. The large difference in the scores of the aggressive and nonaggressive groups indicates that the aggressive conduct-disordered group has many more psychotic symptoms than the nonaggressive group. The surprising number of aggressive conduct-disordered youth who scored high on the type of items that went into the development of the Psychoticism score indicates a problem which can lead to schizophrenia.

As cited in Chapter 1, Stewart and de Blois (1985) gave a
clinical picture of the subjects in their study and believed their picture gave evidence to support the likelihood that aggressive conduct disorder is a valid psychiatric syndrome. They also believed social class and age made little difference in their findings.

Schizophrenia

The DSM-III-R describes conduct disorder as childhood signs of antisocial personality disorder. Clinicians are cautioned not to label a young person as antisocial because such behavior may actually terminate, or it may evolve into other disorders such as schizophrenia.

Lewis et al. (1984) described adolescents diagnosed as conduct-disordered upon entering the hospital but who left with a label of schizophrenia. The data from the Psychoticism category indicate that the aggressive conduct-disordered youth in this study are at risk for schizophrenia if the environment brings specific stressors.

Selin and Gottschalk (1983) discussed the similarities in neurological symptoms using the Halstead-Reitan Battery between the conduct-disordered group and the schizophrenic group. Both scored within the impaired range. Selin and Gottschalk said that the schizophrenic adults and conduct-disordered adolescents have some overlap in clinical, neuropsychological processing and speech deficits. EEG test results also indicated that the schizophrenic and conduct-disordered groups showed greater brain impairment than a group of depressives, which indicates that the similarities between conduct disorder and schizophrenia are due to genetic predisposition.
Some aggressive conduct-disordered youth continue to become progressively worse. Lewis et al. described conduct disorder as an intermediate time for those developing schizophrenia. Clearly not all youth diagnosed conduct-disordered are schizophrenic, but some are. It is the aggressive conduct-disordered youth that is at risk for schizophrenia. Few, if any, of the nonaggressive adolescents become schizophrenic; their symptoms are less severe and fewer in number.

Benedetti (1987) described schizophrenia as an interplay of heredity predisposition and dangerous life experiences. Benedetti also discussed weak ego development and schizophrenia. Others have described the relationship between these same conditions and conduct disorder. Bender (1953) said psychotic symptoms in delinquents are overlooked because they are seen as merely sociopathic. This is a serious problem for professionals.

Psychiatric hospitals do not want to bother with conduct-disordered youth. The youth are seen as manipulative in order to avoid incarceration. Often this is the case. But there are times when the youth are dangerously out of control and desperate. It is under these conditions that they attack caretakers or try to harm themselves. They demonstrate many borderline personality symptoms in that they decompensate under stress but are able to pull themselves together again with enough support and encouragement. The psychiatric hospital usually provides a nurturing environment, and they are able to behave normally within a short time after admission. This does not always mean that they are going to be able to keep themselves together when they return to a stressful environment.
Eysenck (1981) has discussed the severity of antisocial behavior as correlated with psychoticism. The DSM-III-R sees conduct disorder as consisting of childhood signs of antisocial personality disorder. Many more aggressive conduct-disordered youth demonstrate antisocial behavior than do nonaggressive youth. The nonaggressive youth that are undersocialized are not as severe as the aggressive youth.

Berman and Paisley (1984) demonstrated a positive relationship between psychoticism scores and crimes of violence. Delinquents who experience psychotic symptoms, become involved in criminal acts, and become schizophrenic often have a parent with a diagnosis of schizophrenia. The Review of the Literature (Chapter 2) cites many who point out a correlation between psychoticism, aggression, and violence.

Hypothesis Two

Although the model chosen to predict conduct disorder does not include any of the three categories that were expected to be included, the t-tests that were run on Depression, Anxiety, and Hostility indicate a significant difference in these categories between the aggressive and nonaggressive groups. In this section, these three categories, plus the GSI category, are discussed.

Hypothesis: There will be no difference between aggressive and nonaggressive conduct-disordered adolescents' scoring in the category of Hostility.

There are those who have insisted that aggressive youth are more hostile than less aggressive youth, but some have indicated
they believe the nonaggressive group is more hostile than those who act out their impulses and hostility, which causes resentment to build within the individual. With a t-value of 5.45 and a d of .87, there is a significant difference between the two groups in the category of Hostility, and a large difference in the means.

Although the category of Hostility is one of the two categories that has the least number of items (six, the other category being Paranoid Ideation), they are specific and relate to irritation, uncontrollable temper outbursts, shouting and throwing objects, urges to beat, injure, break, and smash things. Destruction of property is a common complaint of caretakers of conduct-disordered youth. Most detention centers have walls that have had holes punched in them. Many of these youth are expelled from school or a vocational program due to destruction of property or to fighting that results in an assault charge.

The amount of anger present in many of the conduct-disordered youth is extreme. Such youth have been physically and emotionally abused, neglected, and have no support system. The less aggressive group appear to be less resistant and usually learn more easily. The more aggressive and hostile the individual, the more time is needed to improve behavior.

Hypothesis Three

Hypothesis: There will be no difference between aggressive and nonaggressive conduct-disordered adolescents' scoring in the category of Depression.

Depression is often denied by aggressive conduct-disordered
youth, while nonaggressive conduct-disordered youth are inclined to admit its presence. With a t-value of 5.61 and a d of .90, there is a significant difference between the aggressive and the nonaggressive groups in the category of Depression, and there is a large difference in the means.

Manipulative adolescents throw a tantrum to get attention. They may deliberately exaggerate acting-out behavior in order to achieve a specific end, but seldom do they fake withdrawal or depression. The hostile acting out of conduct-disordered youth is often a defense mechanism against depression and accompanying possible decompensation. Even when there are no classic symptoms of depression, such as slowed psychomotor activity and behavior illustrating helplessness, depression may be present.

Depression and conduct disorder are often found in the same individual, but the relationship between them is unclear. Depression may be the result of poor social skills, social maladaptation, or it may result from rejection by parents or peers. The adolescent "burns out" the parent and then proceeds through the family one at a time until no one will take him in or assume responsibility for him because he is egocentric, narcissistic, and destructive.

This is not as likely to take place if there is an appropriate surrogate such as a grandmother or aunt. In some cases where drugs are concerned, a parent who cannot resist the temptation to obtain large sums of money may covertly encourage the youth to sell drugs. This can place the youth in a double bind and can result in severe depression and a sense of helplessness. He is
punished if caught, and he fails to please at home if he does not bring in large amounts of money.

Although adolescents are often unstable and often resort to suicidal ideation more readily than adults when they become depressed, they can be worked with and can respond more quickly than adults. The danger is always that a youth will accidently succeed at suicide.

Many conduct-disordered adolescents may be inclined toward depression due to biological factors (Beach et al., 1981), social and environmental factors, or both. The formation of peer support groups designed for positive reinforcement, and enough attention to cause the youth to feel less helpless is often enough to prevent a downward spiral.

Hypothesis Four

Hypothesis: There will be no difference between aggressive and nonaggressive conduct-disordered adolescents' scoring in the category of Anxiety.

Anxiety seems to be present in conduct-disordered youth whether depression is or not. A t-value of 7.53 and a d of 1.10 shows there is a significant difference between these two groups and a large difference in means.

Conduct-disordered adolescents seem to experience a great deal of anxiety, but it is more severe in the aggressive group. The difference is that the nonaggressive group can handle their anxiety better. The aggressive group becomes nonfunctional in specific stressful situations. If this high level of anxiety persists, it
becomes pathological. Often rejection by relatives, impending disposition in court, and new demands for adaptation while in detention produce stress that results in high levels of anxiety.

Bender (1953) spoke of a predisposition toward pathological anxiety. It does appear that some youth are much more anxious than others. Social histories often indicate that previous experiences can account for high levels of anxiety. The most anxious youth are often limited physically and cognitively, and they are often deprived.

Hypothesis Five

Hypothesis: There will be no difference between aggressive and nonaggressive conduct-disordered adolescents' scoring on the Global Severity Index.

The Global Severity Index is the best single indicator of a disorder. The GSI combines the number of symptoms indicated with the intensity of distress. Separate scores, one for the number of symptoms recorded and another for the degree of intensity only, are available on the SCL-90-R. The GSI, which combines these two scores, can be used to indicate total adjustment.

It should be noted that a t-value of 9.31 in the GSI category demonstrates the largest difference between the two groups when it is compared with the other t-tests in this study. The t-value of 9.31 indicates that there is a significant difference between the aggressive and nonaggressive groups, and a d of 1.25 indicates a large difference in means.

The data in the GSI category more than anything else
indicate how different these two groups are when it comes to symptoms of pathology. The nonaggressive group demonstrates fewer symptoms, and the symptoms that are recorded are not rated as severe as the aggressive group.

In summary, the computer correlation matrix shows a correlation between Psychoticism and Anxiety of .79, a correlation between Psychoticism and Hostility of .70, and a correlation between Psychoticism and Depression of .69. There is a high correlation between Psychoticism and Anxiety, while the correlation between Psychoticism Hostility, and Depression is not as high. Depression was chosen for the model by stepwise regression in step three; however, its contribution is so small (see discussion of hypothesis six) it is rejected in the final model for this study. There is a greater overlap between Psychoticism, Anxiety, and Hostility than there is between Psychoticism and Depression.

**Hypothesis Six**

Hypothesis: There will be no relationship between the nine categories of the SCL-90-R when considering which contribute most to conduct disorder.

The most significant finding of this study is the model developed by the stepwise regression and confirmed by the best subsets regression used to test hypothesis six. Of the nine SCL-90-R categories: (1) Somatization, (2) Obsessive-Compulsive, (3) Interpersonal Sensitivity, (4) Depression, (5) Anxiety, (6) Hostility, (7) Phobic Anxiety, (8) Paranoid Ideation, and (9) Psychoticism--
Obsessive-Compulsive and Psychoticism contributed most to predict conduct disorder.

From the results of previous studies conducted by Stewart and his colleagues (Behar & Stewart, 1984; Stewart & de Blois, 1985; Kelso & Stewart, 1986), it was anticipated that the aggressive conduct-disordered youth would score higher in psychoticism than the nonaggressive group. Therefore, the model of Psychoticism and Obsessive-Compulsive was unexpected.

If psychoticism had formed a model in any combination with hostility, depression, or anxiety, this would not have been a surprise. Wolman (1987) outlines a clear picture of depression and anxiety accompanying conduct disorder. The aggressive group scored high in both of these categories (a profile T-score of 62 for Depression and 61 in Anxiety), but neither was chosen for the model by stepwise regression. Overlap accounts for the model selected in this study.

Psychoticism contributed more toward the model with an $R^2$ square of .4278. Obsessive-Compulsive made the second highest contribution with an addition to the $R^2$ square of .0265. Depression was chosen by stepwise regression as the third factor, but it did not contribute enough to warrant its inclusion ($F$ to enter is 2.08 and the contribution to the $R^2$ square is .0088). All other categories contributed very little in comparison to Psychoticism and Obsessive-Compulsive. The selection of a model for conduct disorder made by stepwise regression is verified by best subsets regression. In the final analysis, Psychoticism and Obsessive-Compulsive form the best model for predicting conduct disorder.
Previously the relationship between psychoticism and conduct disorder was noted. For example, Hewitt and Jenkins (1946) found that unsocialized aggressive youth came to the psychiatric clinic at an earlier age than those with better social skills and less demonstrated aggression. Stewart and de Blois (1985) believed aggressive conduct disorder is a valid psychiatric syndrome. Kelso and Stewart (1986) suggested that aggressive conduct disorder is a psychiatric condition. A correlation between psychoticism, impulsivity, and extroversion has also been observed. But none of the studies cited in this work demonstrate a relationship between psychoticism and obsessive-compulsive behavior.

**Psychoticism**

A brief discussion of the two categories that make up the model in this study for predicting conduct disorder follows, beginning with Psychoticism.

Psychotic symptoms are generally thought of as delusions, hallucinations that last for several days, incoherence, catatonic behavior, and an inappropriately flat affect. There is always a deterioration in the functions of daily living. Ruling out psychoactive substance abuse before a diagnosis of psychosis is made in conduct-disordered adolescents is difficult because the use of phenocyclidine and cocaine is so common.

Among schizophrenics there is withdrawal and social isolation. Personal hygiene becomes impaired, and there may be poverty of speech or overelaborate speech. Superstition and magic may have
a strong influence, and illusions and a lack of initiative are common.

Derogatis (1977/1983) has ranked the 10 items in the Psychoticism category (see Table 4, p. 63) according to "first-rank symptoms" of schizophrenia (items 7, 16, 35, and 62) and schizoid lifestyle. Table 4 shows that one first-rank symptom ("Having thoughts that are not your own") is ranked second by the responses of the subjects in this study; a second first-rank symptom ("Hearing voices that other people do not hear") is ranked sixth; and the remaining two ("Other people being aware of your private thoughts" and "The idea that someone else can control your thoughts") are ranked eighth and ninth, respectively.

The subjects' rating of the 10 items in Psychoticism indicates that these young people are not schizophrenic but are demonstrating some serious symptoms of schizophrenia. They could be classified as conduct-disordered with psychotic features or pre-psychotic. This means that under circumstances that are very stressful for them, they could become psychotic.

**Obsessive-Compulsive**

The obsessive-compulsive individual demonstrates a pattern of perfectionism and inflexibility. Although these people strive for perfection, they are thwarted in their efforts by their overly strict adherence to unattainable standards that interfere with satisfaction. They never feel they have done well enough, while being extremely critical of others. Mismanagement of time becomes a problem because tasks are put off until the last moment. They are
overly sensitive to dominance/submission status, and feel a need to
conform to their extreme way of doing things, and decision-making is
difficult due to fear of making a mistake (DSM-III, 1980).

This disorder includes recurrent obsessions that are severe
effective functioning at work, at home, and in relationships
interfere with others. The obsessions consist of ideas, thoughts, and
impulses that are senseless. Unlike delusional thinking, the
obsessive-compulsive individual recognizes that the obsessions are
within their own minds and are not caused by outside forces.
Compulsions are repetitive, purposeful, and intentional behavior.
Such individuals adhere to certain rules that help to prevent
discomfort. Adolescents realize their behavior is unreasonable and
state they do not know why they act as they do.

Depression and anxiety usually accompany obsessive-compulsive disorder. In the conduct-disordered youth, bizarre
behavior is common under stress, but compulsive behavior is less
obvious. The problem of drug and alcohol abuse is a complication of
obsessive-compulsive disorder. Many conduct-disordered youth abuse
both drugs and alcohol.

The items in the Obsessive-Compulsive category contain
symptoms that are highly identified with a standard clinical syn-
drome. The dimension focuses on thoughts, impulses, and behavior
that is unremitting and irresistible but unwanted. They are of an
ego-alien nature. Some cognitive performance attenuation is
included in this category.
High levels of anxiety contributed to the high rating of Obsessive-Compulsive items on this test (see Table 5, p. 64). It appears that anxiety levels are high enough to dominate daily living habits and contribute to inefficiency of both time and energy.

In summary, aggressive conduct-disordered youth demonstrate symptoms similar to those diagnosed as psychotic and obsessive-compulsive. The model for predicting conduct disorder which consists of psychoticism and obsessive-compulsive is obtained by stepwise regression and confirmed by best subsets regression. It was no surprise that psychoticism was in the model, but the combination with obsessive-compulsive was unexpected. Psychoticism contributes most to the model. Depression was chosen in step three but it did not contribute enough to warrant its inclusion.

Profile of SCL-90-R for Conduct Disorder

This section examines the profile of the aggressive and non-aggressive subjects. The profiles describe the aggressive and non-nonaggressive groups and, therefore, should not be used for prediction. The model of Psychoticism and Obsessive-Compulsive is best used for prediction because intercorrelation has been accounted for. The following category descriptions are based on the SCL-90-R manual (Derogatis, 1977/1983).

A mean raw score was obtained for each of the nine categories in the SCL-90-R and converted to a T-score. On the basis of this T-score, a profile for the aggressive and nonaggressive groups was obtained. A profile chart for each group is found in Appendix A. For the purpose of the present discussion, however, the T-scores,
with the raw scores below them, are given in two tables for the convenience of the reader. Table 6 contains the scores for the aggressive group, and Table 7 those for the nonaggressive group.

**TABLE 6**

**Aggressive Profile Scores**

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<th>DEP</th>
<th>ANX</th>
<th>HOS</th>
<th>PROB</th>
<th>PAR</th>
<th>PSY</th>
<th>GSI</th>
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**TABLE 7**

**Nonaggressive Profile Scores**

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<th>ANX</th>
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<td>.81</td>
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Nine Categories of the SCL-90-R

**Somatization**

This dimension reflects distress that results from a perception of bodily dysfunction. The complaints are focused on cardiovascular, gastrointestinal, and respiratory symptoms, as well as symptoms of autonomic mediation. The symptoms are prevalent in disorders that have functional etiology although they may result from true physical diseases. Somatic equivalents of anxiety are included.
It appears that the nonaggressive subjects demonstrate fewer symptoms in Somatization, and they are less severe than the aggressive group.

A T-score of 52 on the SCL-90-R profile sheet was obtained for the nonaggressive group, giving a percentile of 58. A T-score of 50 is middle average, therefore, this score is considered within the average range.

The aggressive group, however, has a T-score of 63 in Somatization. This is well above the average and is equivalent to a percentile rank of 87. Clearly, the aggressive group is manifesting more physical symptoms of stress. This may be because the symptoms of psychological stress are much more severe than those of the nonaggressive group.

**Obsessive-Compulsive**

This dimension reflects symptoms identified with the standard clinical syndrome of obsessive-compulsive. It measures thought, impulses, and actions that are experienced as unremitting and irresistible by the person, but those that are ego-alien or unwanted action. Some behavior and experiences that are of general cognitive performance attenuation are included. The profile T-score for non-aggressives in the category of Obsessive-Compulsive is 50. This is middle average and is much lower than the T-score of the aggressive group.

The aggressive group has a profile T-score of 61 in this category. Obsessive-compulsive is one of two areas that was chosen for the model of conduct disorder. The T-score of 61 is well beyond
the average range and equals a percentile of 86.

**Interpersonal Sensitivity**

Interpersonal Sensitivity focuses on feelings of inadequacy and inferiority. Self-depreciation, uneasiness, and feeling shy or uncomfortable when talking with people are measured in this category.

A T-score of 48 was obtained by the nonaggressive group. This is just below the middle average. Evidently this group does not feel inferior to others socially. The aggressive group, however, has a T-score of 59 and is in the 83rd percentile.

**Depression**

Depression has been discussed in terms of the t-test that was run to test hypothesis three; however, the profile T-scores have not been discussed. The depression dimension of the SCL-90-R reflects a wide range of clinical symptoms. Dysphoria and affect are viewed as signs of withdrawal of life interest, slow psychomotor activity, and a lack of motivation. More severe symptoms such as feelings of hopelessness and thoughts of suicide are also measured.

The nonaggressive conduct-disordered group has a T-score of 55, giving a percentile rank of 70. This is above the average range and the highest peak for the nonaggressive profile. Therefore, depression must be viewed as a major symptom of nonaggressive conduct disorder.

The profile for the aggressive group has three categories scoring equally high. The aggressive group has a T-score of 62 in depression, giving a percentile rank of 86.
Anxiety

The anxiety dimension includes symptoms and signs that are associated clinically with high levels of manifest anxiety. These include feelings of nervousness, tension, trembling, panic attacks and a sense of terror. Some of the cognitive components that make up this score include feelings of apprehension and dread.

The nonaggressive group has a profile T-score of 52, giving a percentile rank of 58. Although this is slightly above average, it is far below the T-score of 61 for the aggressive group, which is a percentile rank of 86. There is evidence of high levels of anxiety within the aggressive group. Feelings of impending doom and frightening thoughts are common among this group. There appears to be a big difference in the amount of anxiety in the two groups.

Hostility

The hostility dimension indicates thoughts, feelings, and actions that are characteristic of a negative attitude and an affect state of anger. The items reflect aggression, irritability, rage, and resentment. Although the number of items is small in this category, the statements are severe.

The nonaggressive group has an average profile T-score of 50. The aggressive group, however, has a T-score of 57, giving a percentile rank of 73. There is evidence of much more hostility within the aggressive group. It should be noted, however, that in terms of the profile, hostility was the lowest score for the aggressive subjects. This may be due, in part, to denial and the overt admission required in responding to such extreme statements.
Phobic Anxiety

The category of phobic anxiety is viewed as a persistent fear response to a specific person, place, object, or situation that is seen as being irrational in proportion to the stimulus and which leads to avoidance or escape behavior. The category focuses on disruptive behavior.

The nonaggressive subjects have a profile T-score of 53, giving a percentile rank of 60. The aggressive subjects have a T-score of 62, with a percentile rank of 86. The large difference between the two groups indicates that specific anxieties as well as generalized anxiety is much greater in the aggressive group.

Paranoid Ideation

This dimension represents paranoid behavior as a disordered mode of thinking. Characteristics of projective thought, hostility, suspiciousness, grandiosity, centrality, fear of loss of autonomy, and delusions are the main aspects of this disorder.

The nonaggressive group has a profile T-score of 53, placing them in the 60th percentile. Once again this is above average, but there is considerable difference between the two groups. The aggressive group has a T-score of 59, placing it at the 83rd percentile. Conduct-disordered youth are apt to blame others for their troubles, but this is especially true of the aggressive group.

Psychoticism

The psychoticism scale is designed to represent a continuous dimension of human experience. Withdrawal, isolation, and schizoid lifestyle are represented. First-rank symptoms of schizophrenia,
including hallucinations and thought-broadcasting, are represented. They are arranged in a graduated continuum from mild interpersonal alienation to clear psychosis.

The nonaggressive group has a profile T-score of 50, which is average. The aggressive group, however, has a T-score of 62, which gives a percentile rank of 86. The implications of psychosis are clear when there is a high Anxiety score and an elevated Psychoticism score combined with one or more first-rank symptoms, such as the idea that someone is controlling thoughts, hearing voices others do not hear, people being aware of one's private thoughts, and having thoughts that are not one's own. Phobic anxiety is almost always elevated in the psychotism profile according to Derogatis (1977/1983). Since the profile of the aggressive group meets the criteria as outlined in the manual for the SCL-90-R (1977/1983), the aggressive group is congruent with others who have met the criteria for psychosis.

Global Severity Index

The GSI score is a global, composite score. The operational rule is that a GSI score greater than or equal to a profile T-score of 63, or any two primary dimension scores that are greater than or equal to a T-score of 63 shall then give the individual consideration for positive diagnosis (Derogatis, 1977/1983). This definition is outlined for adult males. The aggressive adolescents come very close to this definition for adult males. Although the adolescents scored 61 in the GSI category, giving a percentile rank of 86, they have a 63 in Somatization and three T-scores of 62 (Depression,
Phobic Anxiety, and Psychoticism). The generalizability of the criteria needs to be explored further. It may be a useful reference point, however. The nonaggressive group has a profile T-score of 52, giving a percentile rank of 58.

In summary, on the basis of the profile T-scores the prognosis of a psychotic condition in the aggressive conduct-disordered adolescents is a real probability. This is not true for the nonaggressive group since they do not come close to meeting the definition outlined by Derogatis.

Need for a More Specific Criterion

The DSM-III criteria for conduct disorder designate areas as Aggressive, Socialized and Undersocialized, and Nonaggressive, Socialized and Undersocialized. The DSM-III-R combines the Aggressive, Socialized and Undersocialized, with the Nonaggressive, Undersocialized, into a single group labeled Solitary Aggressive Type. The Group Type in the DSM-III-R (the Nonaggressive, Socialized of the DSM-III) may now include some degree of aggressive behavior. There is also a group called Undifferentiated Type. It may be that aggressive and nonaggressive groups in the new category of Solitary Aggressive Type have not been separated simply because of disagreement over what constitutes aggressive behavior. Frequent fighting and arguments may indicate many problems, but crimes of violence and those involving direct confrontation with the victim indicate aggressive conduct disorder.

The DSM-III-R has solved some problems involving the socialized and undersocialized designation, and the Undifferentiated
category is helpful, but this is not enough. The issue of placing aggressive and nonaggressive youth together in the same category ignores their extreme difference in behavior. This issue must be addressed.

**Characteristics of Conduct Disorder**

**General Characteristics**

There are characteristics of the conduct-disordered adolescents that are constant whether the young persons are aggressive or nonaggressive. They consistently violate the rights of others, and they violate societal norms for their age. They frequently behave like a much younger child in that they are very impulsive. Stealing is common, and they often lie for their own advantage and cheat in games (DSM-III, 1980).

Self-esteem is usually low even though behavior may project a macho or tough image. They are apt to have temper tantrums, tend to be irritable, restless, and frustrated. The behavior is consistent over a period of a year or more and is persistent. Truancy and school failure are usually present. Hyperactivity, attention deficit, and borderline personality disorder are diagnoses frequently associated with conduct disorder.

**Nonaggressive**

The nonaggressive conduct-disordered youth score on the SCL-90-R within one T-score above average in all areas evaluated except Interpersonal Sensitivity, where they score below average. The nonaggressive profile has three peaks, the highest being that of Depression, thus indicating they are a depressed group. Phobic
Anxiety and Paranoid Ideation are the other two peaks and are above average. Hostility and Psychoticism score middle average, while Anxiety scores just above middle average.

This group demonstrates fewer symptoms than the aggressive group, and their behavior is less severe. Many nonaggressive conduct-disordered youth are not sociopathic; they simply demonstrate learned behavior. These youth may make friends, and they are reasonable and pleasant to work with. They are simply doing what adults in the family do, but the adolescents get caught. They become bitter and angry if they are abandoned by the family.

At times they have a genuine desire to leave their environment because they feel helpless and depressed. Upon admission to a detention center, they may cry, feel sorry for what they have done, wonder how they ever got into such a situation, look for a positive way out, and respond to supportive direction.

These youth are often used and taken advantage of by adults. Realizing this and feeling resentment, they need positive role models, academic remediation, and vocational training. With positive experiences and careful monitoring, most of these youth can be successful in the community, but without proper support systems, they return to crime, pick up new charges, and recidivism results.

**Aggressive**

The aggressive conduct-disordered youth are overtly aggressive. They make no real attempt to conform to societal codes unless it is necessary, or they think it will accomplish their purpose. The aggressive youth is less accepting of incarceration.
Their profile is extremely different from the nonaggressive group. The peak on the aggressive group is Somatization. This score is high enough to indicate pathology when combined with high Anxiety and Psychoticism. Just below Somatization there are four peaks; Depression, Anxiety, Phobic Anxiety, and Psychoticism. Scores range between the 80th and 90th percentile.

This group of subjects is considered prepsychotic and are demonstrating many psychotic symptoms. Those who can learn to develop and utilize a support system stabilize and improve. Those who cannot continue to have the same problems, only these problems become more serious as they reach adulthood because they are not able to conform well enough to hold a job. Criminal activity then becomes a necessity for survival.

They are more apt to enjoy crime and have developed a more rigid system of meeting their needs. They feel no sorrow for what they have done and brag and take pride in their manipulative skills. Their one desire is to beat the charges against them, get away with their crime, and not get caught the next time. Often they are plotting new adventures before the results of their present situation are known.

Lack of academic success due to poor self-discipline and a lack of perseverence contribute to low self-esteem and frustration. Many aggressive youth then take pride in their negative accomplishments. Although all conduct-disordered adolescents tend to deny reality and to assume little responsibility for their behavior, this denial system is more rigid in the aggressive group. They are
usually harder to work with because of this, and therapeutic progress is slower.

More time and intervention is necessary in order to make progress in changing the behavior of aggressive conduct-disordered adolescents. They need more structure for a longer period before they are ready to consider alternatives. The extreme restraints and structure that are negative for the nonaggressive youth, because these restraints lead them to give up in despair, are necessary for aggressive youth and have a positive effect in the long run. Only when they know changes must be made in order to gain freedom do they seriously consider modifying their behavior. Structure, reward, and modification are necessary in every aspect of living.

Another major difference between the two groups is that the nonaggressive individuals are more apt to remain under control once they learn a few coping techniques, whereas the aggressive youth have more difficulty keeping themselves under control. They may regain composure for a time, but under stressful circumstances they resort to violent outbursts again and again.

The aggressive group appears to suffer a greater degree of hyperactivity. Hyperactive youth are not necessarily conduct-disordered, but the combination of antisocial tendencies with hyperactivity and impulsiveness is especially problematic. The most severe acting out is often a result of parental rejection. There is a question as to whether parents reject their children because they are uncontrollable, violent, and destructive, or whether the rejection stimulates the deviant behavior. Conduct disorder will exist
as long as children have inadequate discipline, a poor role model, and lack supervision and nurturance.

**Implications for Diagnosis, Treatment, and Research**

**Diagnosis**

It is inappropriate to place aggressive and nonaggressive conduct-disordered youth in the same diagnostic category. Their behavior and requirements are so diverse rehabilitation needs different structure. It is necessary to determine which youth have sociopathic characteristics and which are emotionally disturbed. To treat these two groups the same is not in their best interest. Emotionally impaired youth respond better to support and therapy. They may be damaged further by harsh treatment. This does not mean, however, that the youth should be permitted to use manipulation to reinforce negative behavior.

According to the findings of this study, aggressive and nonaggressive conduct-disordered youth are significantly different in all areas tested; therefore, separate diagnostic categories for these young people are necessary to better meet their needs.

**Treatment**

It is easy to lock up conduct-disordered youth in overcrowded detention centers where services are strained to the limit, but this does nothing to prevent recidivism, and the number of youth involved in crimes continues to rise. Conduct-disordered youth generally do not respond to incarceration alone. They hate being locked up, although there is status among many youth groups in the
community in having done time. It is not possible to punish most aggressive conduct-disordered youth enough to modify behavior, because they are hardened and resistant. They have endured deprivation and neglect, and most of them consider themselves survivors. However, lightening sentences would be positive reinforcement for negative behavior.

Detention centers are often incarceration units where youth are treated strictly as criminals, and where there is a lack of emphasis on mental health and rehabilitation programs. The emphasis is on serving time, rather than doing something constructive, such as vocational training and developing skills.

Aggressive youth with conduct disorder need a behavioral point system that rewards desired behavior. This is more than a token system. In the token system the youth may purchase toiletries, desserts, and personal items with tokens that have been earned. This system may be helpful for outpatients as well. In a detention center, the point system should involve all aspects of everyday living from personal hygiene, housekeeping chores within the boys' rooms, and unit detail to the earning of such privileges as moving from a secure unit to an open cottage, involvement in work study programs, and other school and vocational activities.

Weekend home visits have always been used as rewards for good behavior in detention centers. Such visits need to be managed consistently. The balance between security and treatment causes tension, but they can be combined in order to promote the assuming of responsibility for behavior and, at the same time, motivation in the youth.
A treatment unit within a detention center would solve many problems for emotionally impaired youth. Such a unit would maintain a controlled environment where supportive services are primary. A point system could then be combined with therapy.

Some nonaggressive conduct-disordered youth can be rehabilitated by remediating academic deficiencies, providing vocational training, and creating positive experiences. The creation of positive learning and social experiences enhances self-esteem. Time and money are wasted on youth who could become law-abiding citizens if deficits were remediated.

Aggressive youth need similar attention but, in addition, they need individual therapeutic work in order to deal with intense anger and to develop coping techniques in place of self-destructive behavior. Without therapy the truly aggressive youth will not be able to take advantage of efforts to remediate their deficits. Self-destructive behavior will continue, and they will sabotage efforts to help them. This is why correct diagnosis is necessary. The aggressive youth is more emotionally disturbed and needs to work through serious problems before he is able to attend to constructive learning tasks.

Many parents of aggressive adolescents with conduct disorder are willing to try to help their children but are afraid of them because they become violent when confronted. There is a lack of discipline and little supervision in the home. A court-ordered curfew is often necessary and helpful to parents. This must be combined with experiences that motivate responsibility. Because conduct-disordered adolescents lack a sense of positive
accomplishment, they need something positive with which they can identify and in which they can take pride.

Caretakers of these youth need training in behavior management that includes more understanding of the affective domain, as well as the cognitive. Firm discipline is necessary, but emotional support and positive reinforcement are equally important. Behavioral-management programs based upon positive reinforcement, such as the token system, can work if the staff are well-trained. A major problem exists in that an adolescent with a conduct-disordered label is viewed as delinquent, not mentally ill. Some are purely delinquent, but emotional disturbance and personality disorders are prevalent among conduct-disordered youth. There is little recognition of this, however. Too often these youth are written off because caretakers assume value systems and behavior cannot change.

In summary, it is not efficient to treat aggressive and nonaggressive conduct-disordered youth alike. Aggressive youth need more structure in their environment and require more time for rehabilitation. Many nonaggressive youth can make it in society if their environment is modified slightly and they can learn to develop a support system. A percentage of aggressive conduct-disordered youth are on their way to becoming sociopathic and will not be able to take advantage of opportunities. To assume this is true of nonaggressive youth is a serious mistake and pushes them in the wrong direction.
Research

The new interest in conduct-disordered youth is a positive sign. The large number of youth involved in drug abuse and its implications for society have captured the attention of professionals, and it is anticipated that interest will increase. More research is needed, however, to determine causes for aggressive conduct disorder, and the extreme differences between nonaggressive youth who have committed crimes against society, and truly aggressive conduct-disordered adolescents. Treatment of the two groups should be different in order to prevent recidivism.

There is a need for replication of this study to determine whether the model of Psychoticism and Obsessive-Compulsive would be chosen for another group. Another need is to gather more information.

A larger number of conduct-disordered subjects would help to establish an operational rule for diagnosing psychoticism in adolescents as Derogatis has for adult males. Further comparisons of aggressive and nonaggressive conduct-disordered groups are necessary to establish the necessity for separating aggressive and nonaggressive conduct-disordered adolescents.

It was not the primary purpose of this study to deal with treatment and management of conduct-disordered youth. However, if the Psychoticism and Obsessive-Compulsive model is verified and similar profiles are obtained in further studies, management and treatment can address these issues.

A comparison of the SCL-90-R results with that of other instruments would also be helpful. A study with female
conduct-disordered adolescents should be completed in order to determine if the model and the profile would be the same as it is for the adolescent males in this study.

Due to the necessity of protecting the rights of the accused who have not yet been tried, research may fall upon those working directly with conduct-disordered adolescents. Sensitivity and caution are required, but the need for research is extreme, both for the preservation of society and to help individual youth become independent, fully functioning adults.
SYMPTOM PROFILE: AGGRESSIVE
SYMPTOM PROFILE: NONAGGRESSIVE
May 27, 1988

Leonard R. Derogatis, Ph.D.
Clinical Psychometric Research
1228 Wine Spring Lane
Towson, MD 21204

Dear Dr. Derogatis:

The SCL-90-R has been used for a study of 130 male adolescents to determine the difference between aggressive and nonaggressive conduct-disordered youth. The data collected is used in my doctoral dissertation. Communication with your office indicated it would be acceptable to include a profile of each group if my data is superimposed on the profile. I left my address with your secretary but have not heard from you.

Would you be kind enough to communicate with me concerning this matter? Thank you for your consideration.

Sincerely yours,

Janet M. Rice
8214 Dragonfly Court
Laurel, MD 20707
June 9, 1986

Ms. Janet M Rice
8214 Dragonfly Court
Laurel, MD 20707

Dear Ms. Rice,

Thank you for your interest in the SCL-90-R. Please be advised that this letter gives formal permission for the inclusion of the SCL-90-R profile form with your data superimposed on it within your dissertation.

Sincerely,

Maureen F. Derogatis

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