VIOLENT AND NONVIOLENT JUVENILE OFFENDERS: AN ASSESSMENT OF DIFFERENCES IN IMPULSE, EGO STRUCTURE, AND OBJECT RELATIONS USING THE PSYCHOANALYTIC RORSCHACH PROFILE

DISSERTATION

Presented to the Graduate Council of the University of North Texas in Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Theresa A. Callahan, B.A., M.A.

Denton, Texas

August, 1993
VIOLENT AND NONVIOLENT JUVENILE OFFENDERS: AN ASSESSMENT OF
DIFFERENCES IN IMPULSE, EGO STRUCTURE, AND OBJECT RELATIONS
USING THE PSYCHOANALYTIC RORSCHACH PROFILE

DISSERTATION

Presented to the Graduate Council of the
University of North Texas in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Theresa A. Callahan, B.A., M.A.
Denton, Texas
August, 1993

Juveniles currently account for a significant proportion of violent crimes, including murder, aggravated assault, aggravated robbery, and aggravated sexual assault. Information that can identify youths at risk for extremely violent behavior is highly desirable. Violent juveniles are known to differ psychiatrically from adolescents who manifest less severe forms of antisocial behavior. In particular, borderline psychopathology has been associated with seriously delinquent behavior. Borderline personality organization represents a developmental arrest characterized by intense anger, impulsivity, breakthroughs of aggressivity or rage, impaired reality testing under stress, and disturbed interpersonal relationships.

The Rorschach Inkblot Test is useful for assessing the object relations and defensive operations associated with a borderline level of personality functioning. The present study used the Psychoanalytic Rorschach Profile (PRP) to assess differences in personality organization in violent and nonviolent juvenile offenders.
Archival data from the files of the Psychological Services Division of the Dallas County Juvenile Department were used in this study. Subjects were 80 male juveniles referred for aggravated assault or felony property offenses. Rorschach protocols were scored according to PRP guidelines. Scores on seven scales of the PRP were analyzed using Mann-Whitney U tests. Differences in frequency of scale use were assessed by chi-square tests. It was hypothesized that violent offenders would manifest greater psychopathology than would nonviolent offenders, as evidenced by significant differences in performance on PRP scales assessing impulse, ego structure, and object relations.

The Boundary, Stability, Thought Disturbance, Animation, Differentiation of Boundaries, Mutuality of Interactions, and Total Impulse scales of the PRP discriminated violent and nonviolent offenders. Violent offenders evinced greater pathology, as predicted. An Overall Impulse scale also differentiated the two groups in the expected direction. Hypotheses regarding differences in frequency of scale use were not confirmed. The effect of chronic trauma on the developing ego and its relationship to aggressive antisocial behavior were discussed.
# TABLE OF CONTENTS

LIST OF TABLES ....................................................... iv

CHAPTER

I. INTRODUCTION .................................................... 1

  Perspectives on Juvenile Delinquency:
    Brief Historical Review
  Theories of Aggression
  The Prediction of Violent Behavior
  The Epidemiology of Violent Crime and Delinquency
  Correlates of Juvenile Violence:
    Empirical Studies

II. AGGRESSION: PSYCHODYNAMIC FORMULATIONS ............... 43

  Theoretical Contributions from Classical Psychoanalysis
  Object Relations Perspectives on Aggression
  Theoretical Controversies and Empirical Evidence
  The Rorschach Inkblot Test and Its Systematizers
  The Psychoanalytic Rorschach Profile
  Borderline Symptomatology in Psychopathic Populations
  Purpose

III. METHOD .......................................................... 92

  Subjects
  Materials
  Raters
  Procedure

IV. RESULTS .......................................................... 98

  Demographics
  Data Analyses
  Post-Hoc Analyses

V. DISCUSSION ......................................................... 115

APPENDICES .......................................................... 133

REFERENCES .......................................................... 161
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-1</td>
<td>Mean Age of Research Subjects</td>
<td>134</td>
</tr>
<tr>
<td>A-2</td>
<td>Ethnicity of Research Subjects (in Percentages)</td>
<td>135</td>
</tr>
<tr>
<td>A-3</td>
<td>Measured Intelligence of Research Subjects (Mean IQ)</td>
<td>136</td>
</tr>
<tr>
<td>A-4</td>
<td>Intelligence Range Classifications for Research Subjects (in Percentages)</td>
<td>137</td>
</tr>
<tr>
<td>A-5</td>
<td>Mean Number of Prior Offenses</td>
<td>138</td>
</tr>
<tr>
<td>A-6</td>
<td>Interrater Reliability Coefficients of the 10 Scales of the PRP</td>
<td>139</td>
</tr>
<tr>
<td>A-7</td>
<td>Interrater Agreement on Nominal Scales of the PRP (in Percentages)</td>
<td>140</td>
</tr>
<tr>
<td>A-8</td>
<td>Mann-Whitney U Analyses Comparing Violent and Nonviolent Subjects on Scales of the PRP</td>
<td>141</td>
</tr>
<tr>
<td>A-9</td>
<td>Comparison of Offense Groups on Frequency of Use of Three PRP Scales</td>
<td>142</td>
</tr>
<tr>
<td>A-10</td>
<td>Frequency of Use of Lowest and Highest Scale Levels</td>
<td>143</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

With the number of juveniles arrested for murder in the United States doubling between 1984 and 1989 (Freiberg, 1991), juveniles now account for more than 10% of all homicide arrests. Experts predict that both the annual number and the annual rate of juvenile homicides will reach record proportions by the end of the century (C. P. Ewing, quoted in Freiberg, 1991). Although prevention is highly desirable, at the present time youths at risk for extremely violent behavior cannot be reliably identified.

Traditionally, delinquent juveniles have been regarded as a relatively homogeneous group of offenders who are primarily manifesting a disorder of conduct (McManus, Alessi, Grapentine, & Brickman, 1984). Recent studies, however, have documented a wide range of psychopathology in seriously delinquent juveniles, with psychotic symptoms (Lewis, Moy, Jackson, Aaronson, Restifo, Serra, & Simos, 1985) and borderline features (McManus et al., 1984) associated with homicide and other violent felonies. Evidence that violent juveniles differ psychiatrically from adolescents who manifest less severe forms of antisocial behavior supports the psychoanalytic formulation, advanced in particular by
object relations theorists (e.g., Kernberg, 1970, 1975, 1978) that antisocial or conduct disorder in adolescence may reflect an underlying borderline personality organization. In reporting widespread borderline symptomatology in incarcerated juveniles, McManus et al. (1984) noted that "further studies are needed to determine if identification of borderline psychopathology in [delinquent adolescents] segregates a unique population in terms of etiology, treatment, or prognosis" (p. 613).

Over the past two decades psychoanalytic researchers have developed promising techniques for the empirical investigation of psychoanalytic dimensions of personality organization utilizing projective instruments. The Rorschach Inkblot Test (Rorschach, 1921/1942) has proven especially useful for assessing the object relations and defensive operations which theoretically characterize the borderline level of personality functioning. To date, Gacono (1990) has conducted the only Rorschach study investigating these features in an offender population. Using various measures to assess borderline object relations, defenses, and level of narcissism, Gacono (1990) found that severe adult psychopaths were more borderline in their functioning than were subjects whose level of criminal activity was moderate. The present study explored whether violent and nonviolent juvenile offenders could be discriminated on the basis of overall psychopathology by using a newly-designed comprehensive
scoring system for Rorschach content, the revised Psychoanalytic Rorschach Profile (Gorlitz, Burke, & Friedman, 1986), to assess drive, ego, and object relations.

**Perspectives on Juvenile Delinquency: Brief Historical Review**

**Differential treatment of juvenile offenders.** A central tenet in modern theories of juvenile delinquency is the assumption that children are different from adults and should be accorded differential status and specialized treatment under the law. Interestingly, the notion that children are distinct from adults mentally, emotionally, and intellectually is a fairly recent concept which did not exist prior to the medieval period (Vito & Wilson, 1985). Prior to the Middle Ages, children were regarded as small versions of adults. In Britain, laws mandating differential treatment for youthful offenders date from the seventh century (Sanders, 1970) and an idea as "modern" as the use of probation for juveniles can be traced to the reign of tenth-century king Athelstan (Shireman & Reamer, 1986). Although scholars (e.g., Aries, 1962; de Mause, 1974; Gillis, 1974; Kessen, 1965) disagree on the factors which influenced this shift in sociocultural conceptions of childhood, the principle that children are more innocent and impressionable than adults, and therefore deserving of more lenient treatment under law, has gained general acceptance since the tenth century. Despite changing contemporary attitudes, which increasingly tend to regard the juvenile offender as a
"willful perpetrator rather than as an unwilling victim of seductive and baneful influences" (Shireman & Reamer, 1986, p. 2), this principle continues to underlie the philosophy of the American juvenile justice system, which is based on English common law.

The idea that children constitute a class recognized as less culpable than adults with respect to criminal behavior was incorporated into English common law as it developed in the eleventh century. Children under the age of seven, the so-called "age of reason," were deemed incapable of criminal responsibility due to a presumed lack of criminal intent (mens rea), while children between the ages of seven and fourteen could be tried as adults only if the court could establish their ability to distinguish between right and wrong (Vito & Wilson, 1985). Furthermore, as part of the legal reforms of Edward I (1272-1307), the Council of Chancery was empowered to exercise with regard to children and other individuals deserving protection from the harshness of the law the "prerogative of grace," a principle which developed into the idea of parens patriae (i.e., that the king or state can act as parent or guardian).

While notable developments in legal philosophy occurred during the Enlightenment of the eighteenth century, prominent theorists continued to accept the idea that children should be regarded as a distinct class. For example, Italian aristocrat Cesare Bonesana, the Marquis of Beccaria
(1738-1794), and British jurist and philosopher Jeremy Bentham (1748-1832) were the leading proponents of the classical school of criminology, a reform movement which was primarily responsible for the humanitarian revision of penal codes in this period. In his monograph entitled *On Crime and Punishments*, published anonymously in 1764, Beccaria argued that education, rather than punishment, was the surest if not the easiest preventive against crime. Bentham likewise believed in the efficacy of rewards and education to remediate criminal tendencies (Toch, 1979, p. 151). Beccaria and Bentham emphasized that human beings were rational and morally responsible for their behavior and thus could be induced to behave appropriately out of self-interest; however, these two reformers specifically exempted children as incapable of calculating the possible risks and benefits associated with their actions.

Theories of causation. Partly in reaction against the humanistic optimism of the classical school, the deterministic positivist school of criminology emerged, focusing on presumed causative factors in criminal behavior. Italian anthropologist Cesare Lombroso (1836-1909), its chief spokesperson, was strongly influenced by Darwin's theory of evolution, as were many nineteenth-century theorists. Lombroso differentiated five criminal types, including the "born criminal." He contended that, in the born criminal, criminality and delinquency were the expression of an
underlying biological degeneracy and represented an "atavistic reversal," that is, a reversion to more primitive characteristics, including "the ferocious instincts of primitive humanity and the inferior animals" (Lombroso, 1876/1911b, p. xiv). According to his theories, which were confirmed by his empirical studies of Italian convicts, an innate propensity for criminality was evidenced by pre-human anatomical features termed "stigmata" (e.g., small ears, low sloping forehead, receding chin, prehensile feet). This evidence was subsequently invalidated. Lombroso, who died in 1909, also devised a "cephalic index" by which he was able to determine the extent of cranial abnormality in his subjects. He insisted that congenital factors constituted the "ultimate cause" (Lombroso, 1876/1911b, p. 376) of crime.

Despite their determinism (i.e., the belief that behavior is caused by biological forces), positivists like Enrico Ferri and Raffaele Garofalo were optimistic that social problems could be scientifically studied and solved. According to Toch (1979), they believed in the efficacy of rehabilitation and regarded juvenile delinquents as salvageable. In addition, the positivists were among the first modern proponents of "probation, the juvenile court, [and] experiments with youthful offenders" (p. 154).

Numerous social and psychological theorists of the nineteenth century were drawn into the debate over supposed causal factors in juvenile delinquency and tended to espouse
widely divergent views. In the mid-nineteenth century, for example, the French social criminologist Adolphe Quetelet (1796-1874) attributed criminal activity to environmental causes and formulated a "thermic law of delinquency" which predicted that hot southern climates would produce violent crimes while northern climates would produce crimes against property (Toch, 1979, p. 157). In contrast, an obscure German psychiatrist named Hermann Emminghaus published a treatise in 1887 on *Psychic Disturbances of Childhood* in which he argued that delinquent children were suffering from an illness (Harms, 1960). Although Emminghaus' belief in psychological disturbance as an underlying factor in delinquent behavior was never widely disseminated, his humane views may represent one of the earliest psychiatric perspectives on juvenile delinquency.

In the late nineteenth and early twentieth centuries, a growing professional interest in juvenile offenders reflected the Zeitgeist, especially in the United States where the development of the juvenile court system evolved in tandem with a contemporary concern for mental hygiene (Alexander & Selesnick, 1966), increasing public attention to problems of social justice, and a "save the children" movement. For example, after the first juvenile court in the United States was established in 1899 in Cook County, Illinois, its chief probation officer described its mission as "saving the little ones from the fearful future which seemed to be yawning for
them" (Timothy Hurley, 1907, quoted in Shireman & Reamer, 1986). In the aptly named "reformatories," juvenile offenders were to be, not punished, but rather trained "for future usefulness" (Platt, 1977, p. 106). Platt (1977) relates that in 1898 a delegate to the National Prison Association offered the following recommendations with respect to the management of youthful offenders: "Teach them to love mother and the home, and to hope for heaven . . . . Give the little fellows good companionship, decent, comfortable quarters, clean beds and wholesome food. Smile on them, speak to them, and let sunshine into their souls" (p. 70).

In the United States, the year 1909 was a watershed with respect to advances in research and community services related to delinquency. In that year, the National Committee for Mental Hygiene was organized under the supervision of Clifford Beers, Adolph Meyer, and William James; the American child-guidance movement was founded; and, thanks to the largesse of Chicago philanthropist Mrs. W. F. Dummer, the Juvenile Psychopathic Institute was established as a clinic for research into the causes and prevention of delinquency. Despite these progressive steps, the more pessimistic aspects of positivism, such as Lombroso's views regarding hereditary physical and mental defects in criminality, remained influential in the first decade of the twentieth century.
By the time a posthumous English edition of Lombroso's work *Crime, Its Causes and Remedies* appeared in 1911 (Lombroso, 1911a), however, a reaction against his opinions had already begun. For example, in their landmark study *The Delinquent Child and the Home*, Breckinridge and Abbott (1912) focused on poverty and other socioeconomic aspects of family life to explain delinquency. A few years later, William Healy, director of the Juvenile Psychopathic Institute, published *The Individual Delinquent* (1915) summarizing the findings from his six-year study of causative factors in juvenile delinquency. Healy dismissed the presumed etiological significance of genetic defects or physiological degeneracy in delinquency and emphasized instead the role of socioeconomic variables. In addition, he advanced the idea that mental abnormality or psychological conflict was the factor most closely associated with recidivism in juvenile offenders.

In the years following World War I, the idea that juvenile offenders should receive special legal treatment became firmly entrenched, with all but three states establishing a system of juvenile courts. Today the legal term *juvenile* usually describes an individual between the ages of 10 and 17. The trend away from biological explanations of delinquency continued and psychological interest in criminal behavior grew. In 1922, the National Committee for Mental Hygiene launched an ambitious five-year
interdisciplinary program using psychological testing, social histories, and psychiatric diagnoses to help clarify causative factors in conduct disorders. During the 1920s, Bernard Glueck conducted a psychiatric investigation of incarcerated felons, paying particular attention to their early life experiences, and in 1924 the American Orthopsychiatric Association was established to promote the understanding and treatment of juvenile delinquency (Alexander & Selesnick, 1966).

The most notable alternative to biological theories of causation in the 1920s was offered by the Chicago school, represented by Frederic Thrasher, Ernest Burgess, Clifford Shaw, and Henry McKay. These theorists focused on so-called social ecological factors in rates of delinquency, such as residency in zones of transitional economic growth. In 1922, criminal lawyer Clarence Darrow published *Crime, Its Causes and Treatment*, an apparent rejoinder to Lombroso, in which he criticized punishment as an ineffective response to delinquency and argued for increased understanding of the sociological roots of antisocial behavior among juveniles. Although the possible role of personal pathology as a causative factor in delinquency was never entirely discounted, and even the Chicago school assumed that developmental experiences were influential in the formation of the individual delinquent (Toch, 1979), the juvenile
delinquent came increasingly to be viewed by academic theorists as primarily a product of the social environment.

Multiple-factor sociological explanations of crime and delinquency achieved ascendency in the 1930s and have remained dominant to the present day. Warren and Hindelang (1979) identify three general categories of sociological theories to explain offender behavior: strain theories, subcultural deviance theories, and social control theories. In *Social Structure and Anomie*, Robert Merton (1938) presented a prototypal strain theory, postulating that delinquency results when certain individuals are forced to resort to alternate (i.e., nonconforming or illegal) means to obtain socially-sanctioned ends, such as material goods. Subcultural deviance theories suggest that delinquent behavior occurs when individuals give their allegiance to groups, such as gangs, which hold values contrary to the dominant culture and which condone and encourage delinquent activity (Warren & Hindelang, 1979). Social control theories (Durkheim, 1925/1961; Hirschi, 1969; Matza, 1964) attribute delinquent behavior to the individual's weakened bond to society. Despite the wide appeal of sociological theories, however, they have not gone uncriticized. In particular, the behaviorist view represents a fundamental challenge to sociological theories. As Hirschi (1979) points out, Edwin H. Sutherland dismissed both individual and social pathology as causative factors in delinquency in 1970 when he declared...
that "criminal behavior is learned" (Sutherland & Cressey, 1970, p. 75).

Diagnostic and classification systems. The revised third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R; American Psychiatric Association, 1987) distinguishes a childhood or adolescent category of antisocial personality disorder which is termed conduct disorder. As in the case of antisocial personality disorder, which is reserved for persons 18 years of age or older, a diagnosis of conduct disorder is made on the basis of a persistent pattern of behavior of at least six months duration that disregards the rights of others and violates age-appropriate social norms and rules. Specifically, a minimum of 3 out of 13 behaviors are required for the diagnosis. Although milder forms of unacceptable behavior, such as lying, truancy, and running away from home, are sufficient to earn the diagnosis, most of the defining features of the disorder are illegal acts, such as burglary, theft, or forced sexual activity. Youths whose repetitive and persistent antisocial behavior brings them into contact with the legal authorities are virtually assured of a conduct disorder diagnosis. For example, in one study of incarcerated delinquents (McManus et al., 1985), 90% of the subjects met the criteria for conduct disorder. A diagnosis of conduct disorder may have little meaning in delinquent
populations and does not preclude the presence of other psychiatric disorders.

Although adult antisocial personality disorder as defined in DSM-III-R is a heterogeneous condition, there is evidence that antisocials, criminals, and delinquents can be classed into more homogeneous diagnostic subgroups (Blackburn, 1971; Karpman, 1947). In diagnosing conduct-disordered children and adolescents, DSM-III-R identifies three subtypes (group, solitary aggressive, and undifferentiated) and rates severity of the disturbance as mild, moderate, or severe. If the pattern of behavior include acts which cause serious physical injury to others, the diagnosis is rated as severe. Severe forms tend to be chronic, and early onset is associated with greater risk of antisocial personality in adulthood. The authors of DSM-III-R estimate that 9% of males under the age of 18 qualify for a diagnosis of conduct disorder.

The DSM-III-R classification system is atheoretical regarding the understanding of nonorganic mental disorders. Thus, a diagnosis of conduct disorder describes a clinically significant and dysfunctional behavioral syndrome without implying any assumptions about psychogenesis or etiology. Alternatives to the DSM-III-R diagnostic approach are represented by various heuristic taxonomies which have been fully reviewed elsewhere (Megargee & Bohn, 1979). Of particular interest are contributions to a psychological
understanding of delinquent adolescents made by several psychoanalytically oriented theorists who have formulated classification systems (e.g., Abrahamsen, 1960; Alexander & Staub, 1956; Friedlander, 1947; Sanford, 1947; Weinberg, 1952). Most of these theorists recognize a category of impulsive or antisocial delinquents which includes unsocialized aggressive types and psychopaths. Ferdinand (1966), in attempting to synthesize diverse psychoanalytic classification systems, suggested that each delinquent type had its own distinctive personality structure and psychodynamics, with impulsive (antisocial) types generally regarded as evidencing a basic deficiency in control mechanisms (Megargee & Bohn, 1979).

Marguerite Warren (1966, 1969, 1976) has offered a developmental approach that is relevant to the present study. Warren proposes classifying juvenile delinquents on the basis of their interpersonal maturity level, termed the I level. According to Warren, each individual progresses through successive developmental stages during which crucial interpersonal problems must be resolved; failure to succeed in these stage-specific tasks results in fixation at that level of development. Warren's classification system places most juvenile offenders at maturity levels two through four. I level two, a low level which includes the asocial aggressive subtype, "involves a primitive egocentric individual who relates to others solely in terms of what they
can do for or to him" (Megargee & Bohn, 1979, p. 54) and who acts out aggressively when thwarted. An advantage of the I level system of classification is that it has application in the assignment of juvenile offenders to different treatment modes. In addition, a theoretically based classification system such as Warren's is likely to be more useful than atheoretical systems such as the DSM-III-R for research studies which explore the presumed underlying pathology of antisocial behavior.

Theories of Aggression

The propensity for human aggression has been variously explained by philosophers, theologians, psychologists, ethologists, and others. Five established theoretical perspectives will be reviewed: (a) instinct theories, (b) drive theories, (c) the cognitive neoassociationist view, (d) social learning theory, and (e) the biological perspective.

Instinct theories. The idea that human nature is fallen and corrupt forms the basis for one of the most venerable views on aggression. For example, the author of Genesis records an act of murder (Genesis 4:8) as one of the first consequences of Original Sin, with God subsequently determining to destroy humankind because he found that "the earth was filled with violence" (Genesis 6:11).

Intellectuals like Jean-Jacques Rousseau (1712-1778) and contemporary humanistic psychologists have popularized the notion that humans are by nature benign and good, but many
theologians and philosophers, prominent among them Thomas Hobbes (1588-1679), have argued that humans are innately depraved. In modern times, Freud theorized that "the mental constitution of humanity" (Freud, 1916-1917/1963) contained a measure of evil. He later developed this proposition into his concept of a death instinct (Freud, 1920/1955) which aims at self-destruction but is often displaced against others. Even before Freud, psychologist William McDougall (1908) postulated pugnacity (aggressiveness) as a basic human instinct. Konrad Lorenz (1976), approaching the problem from an ethological perspective, identified a fighting instinct in humans as an evolutionary inheritance held in common with other species. Lorenz emphasized the adaptive nature of this inborn aggressive instinct, but agreed with Freud that hostile impulses, if unexpressed, may lead to explosive acts of violence. This catharsis hypothesis has received only limited and inconsistent empirical support (Feshbach, 1984).

**Drive theories.** Instinct theories of aggression have been criticized, especially by social psychologists, for ignoring the role of the environment in instigating violent behavior. As alternatives to instinct theories, drive theories of aggression (e.g., Berkowitz, 1978; Dollard, Doob, Miller, Mowrer, & Sears, 1939; Feshbach, 1984) have been proposed, all of which focus on external conditions (e.g., physical pain, frustration, loss of face, aggressive cues, heat, crowding) which arouse the motive (i.e., elicit the
drive) to behave aggressively, usually against a specific target. A major drawback of drive theories is the failure to account for the wide array of behaviors, other than aggression, which may be aroused by a cue or negative event in the environment. For example, some individuals may withdraw from, rather than aggress against, a source of frustration.

The cognitive neoassociationist view. Like drive theories, the cognitive neoassociationist view (Berkowitz, 1984; Berkowitz & Heimer, 1987, cited in Baron & Byrne, 1987) hypothesizes that exposure to aversive environmental conditions can activate tendencies toward overt violence by generating negative affect (unpleasant feelings), as well as associated physiological reactions, thoughts, and memories. The cognitive neoassociationist view, however, addresses the limitations of drive theory by emphasizing the influence of higher level cognitive processes in offsetting the tendency to act out aggressively. For example, concerns about negative consequences of aggression, such as retaliation or social ostracism, may restrain an individual from engaging in violent behavior. Furthermore, a considerable body of research (e.g., Ferguson & Rule, 1983; Johnson & Rule, 1986; Kremer & Stephens, 1983; Mallick & McCandless, 1966; Ohbuchi & Kambara, 1985) supports the idea that the human response to provocation is mediated by attributions about such things as causality and intentionality.
Social learning theory. Proponents of social learning theory (Bandura, 1973; Baron, 1977, Berkowitz, 1984) believe that aggression is primarily a learned form of social behavior. These theorists assume that the origins of violent behavior are highly diverse and involve such variables as learning history, knowledge of norms related to aggression, current conditions promising reward or threatening punishment for aggression, and a variety of environmental, social, and cognitive factors that either induce or inhibit its expression (Baron & Byrne, 1987, p. 301). The social learning perspective may be particularly relevant to the study of gang-related violence among juveniles.

The biological perspective. The human propensity for aggression may not constitute a genuine instinct but is clearly influenced by a wide array of biological factors: neural, genetic, and chemical. The majority of neurological studies have been carried out on rodents and should not be generalized to humans. For example, researchers have determined that the human brain, like the rodent brain, contains complex systems (e.g., the amygdala) which facilitate aggression if stimulated, but in humans these effects are apparently produced only in persons prone to episodic violence (Kim & Umbach, 1972, cited in Valenstein, 1973).

Traditional twin studies on the genetics of antisocial behavior which suggested a heritability estimate of .60 to
.70 have recently been challenged by Carey (1992) in his analysis of the role of reciprocal twin interactions. However, twin studies and biological studies of siblings reared apart (Cadoret, Cain, & Crowe, 1983; Crowe, 1974; Lester, 1986; Mednick, Gabrielli, & Hutchings, 1984) still support the conclusion that criminality has a genetic basis unconfounded by imitative phenomena (Carey, 1992). With respect to familial transmission, DSM-III-R notes that conduct disorders appear more often in children whose parents have antisocial personalities than in families without such disorders.

Individual differences in aggressive tendency in humans are also recognized as having a strong hereditary component (Rushton, Fulker, Neale, Nias, & Eysenck, 1986). In the 1960s and 1970s, genetic research on criminality and violence focused in particular on a possible link between a rare chromosomal abnormality in males (XYY) and a propensity for aggression. However, the authors of a major study (Witkin et al, 1976) which compared XYY males, males with Klinefelter's syndrome (XXY), and normals concluded that these groups did not differ in the incidence of violent crime.

While biochemical factors including low blood sugar level (Myers, 1990), states of intoxication due to the ingestion of substances such as alcohol, cocaine, or amphetamines (Earls, 1978), and pharmacological compounds or neurotransmitters that induce changes in the central nervous
system (Leventhal, 1984; Sheard, 1971) are sometimes associated with heightened aggressiveness, the predominant biochemical influences on human aggression are hormones. Research on violence among institutionalized women has invariably found that actual aggression decreases around the time of ovulation, when a surge in luteinizing hormone (LH) occurs, and increases just before menstruation, when the level of progesterone declines (Floody, 1983). In general, human males are more aggressive than females, even in early childhood (D'Andrade, 1966), presumably as a result of prenatal androgenization. Exposure to synthetic testosterone in utero (prescribed to prevent miscarriage) has also been linked to higher levels of aggression in adulthood (Reinisch, 1981).

Male testosterone levels increase in the early teenage years, as do aggression and inter-male fighting (Mazur, 1983). Kreuz and Rose (1972) measured the androgen levels of males with a history of violent crime and found that high testosterone was related to a pattern of adolescent aggression. Psychologist Hans Eysenck (1967; 1976; 1982), who has attempted to specify a physiological basis for various personality dimensions, notes that males are more prone to psychopathy and psychoticism and suggests that these traits are related to levels of testosterone.

Physiological research on aggression has attempted to illuminate the causes of irrational violence that may be
associated with neuropathology (Carlson, 1986). For example, in *Violence and the Brain*, Mark and Ervin (1970) popularized the idea of a so-called "dyscontrol syndrome" characterized by periodic eruptions of uncontrollable rage and violence. According to their hypothesis, the dyscontrol syndrome results from localized, barely detectable or unobservable brain abnormalities that trigger neural circuits responsible for aggressive behavior. The existence of these "hidden" biological indicators in violence is assumed but unverified.

In some cases it is true that rage reactions and aggressiveness in humans may be ameliorated by amygdalectomy, a psychosurgical procedure that involves creating lesions in the amygdala, a part of the limbic system consisting of nuclei located in the base of the temporal lobe. Psychosurgery is not a panacea, however, and may produce only minimal or temporary suppression of violent behavior along with deleterious side effects; furthermore, its use entails complex scientific and ethical considerations. As a rule, psychosurgery is indicated only when there are definite symptoms of neuropathy above and beyond the behavioral manifestations of violence (Carlson, 1986, p. 503) and is not an appropriate technique for the control of social violence, as its most avid proponents would seem to imply (e.g., Mark & Ervin, 1970, p. 151). As Earls (1978) notes, one reviewer (Coleman, 1974) of *Violence and the Brain* was so appalled by the strong argument made by Mark and Ervin for psychosurgery
despite weak evidence for the "hidden" biological indicators of violence that he dismissed the entire treatise as the "new phrenology."

Violent behavior may be associated with brain dysfunction resulting from a variety of causes, including neonatal anoxia, head injury, viral infection, or tumor, and may respond to less drastic medical interventions. For example, tranquilizers or anticonvulsive drug therapy may control aggressiveness caused by functional abnormality such as seizure-producing foci in the temporal lobe (Carlson, 1986).

The Prediction of Violent Behavior

While general theories intended to explain the etiology of aggressive behavior are numerous and thought-provoking, reliable strategies for estimating a potential for violence remain inadequate. As Menninger (1963) observed, violent behavior tends to recur "but the time and sometimes the circumstances of recurrence are highly unpredictable; it is rarely at regular intervals and, indeed, sometimes does not occur at all" (p. 231). Professionals offering clinical judgments about violent recidivism should remember that they are dealing with probabilities, rather than certainties, and should acknowledge a level of accuracy that is far from satisfactory, considering the potential impact of their opinions on the lives of the individuals in question.
Regardless of the type of assessment instrument used, current measures of violence potential have poor predictive validity (Monahan, 1981). In particular, predicting a first-time violent offense in the general population is highly problematic. To some extent, this problem is related to a severely reduced base rate for criminal violence which creates a significant number of false positives (Hanley, 1979). Furthermore, there are few established criteria for judging and predicting an individual’s dangerousness (Shah, 1978). Reviewing seven studies, for example, Hanley (1979) determined that 55% to 99% of persons predicted to be dangerous were not (p. 260).

As Hanley (1979) points out, misclassifying persons as prone to violence is highly undesirable if application of the faulty predictor results in severe infringements on the rights of those who have been incorrectly labeled. The consequences of misclassification are less objectionable, however, if the predictor is used to divert individuals into relatively risk-free treatments. Prevention programs devised to assist persons identified as at risk for schizophrenia, a mental disorder with a low base rate, may serve as models for programs that deal with persons at risk for violent behavior. Confining intervention to persons with a history of violent behavior has been another strategy for addressing problems related to low base rates in the general population.
Researchers have tested the applicability of the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1940) in identifying violence-prone individuals. Sines (1966) found that, among incarcerated criminals and the hospitalized mentally ill, the 4-3 MMPI profile was associated with a history of violence, a relationship which was confirmed by several other investigators (Davis & Sines, 1971; Persons & Marks, 1971). Gynther, Altman, and Warbin (1973), however, reported a failure to replicate the association in a group of psychiatric patients and, in any case, the relevance of the 4-3 profile for adolescent offenders is unknown. In fact, in reporting findings from a major study of assaultive juvenile delinquents, Wenk and Emrich (1972) concluded that several combinations of predictors culled from psychological test data and life histories had little practical utility in predicting violent recidivism.

Attempts at prediction have been complicated by empirical data challenging basic theoretical assumptions about violent offenders, such as the presumption that such persons are characterized by impulsive aggressivity. Promising research aimed at differentiating violent from nonviolent offenders was initiated by Megargee and his associates in a study of extremely assaultive, moderately assaultive, and nonassaultive male criminals. Megargee and Mendelsohn (1962) reported the paradoxical finding that
extremely assaultive adult criminals attained significantly lower hostility scores and evidenced better impulse control on the MMPI than did moderately assaultive and nonassaultive criminals, a result replicated by Deiker (1974). Megargee, Cook, and Mendelsohn (1967) then developed the Overcontrolled-Hostility (O-H) scale to differentiate undercontrolled individuals, who have low inhibitions and tend to respond violently to provocation, from those overcontrolled individuals who excessively defend against any expression of hostility. Megargee reasoned that the latter group were more important to identify because their violent behavior tended to be unexpected and extreme (Greene, 1980). Megargee and his colleagues have subsequently focused on establishing diagnostic validity and personality correlates for the O-H scale, instead of refining its predictive validity. At present, the O-H scale has not been shown reliably to discriminate between violent and nonviolent criminals (Hoppe & Singer, 1976; Mallory & Walker, 1972).

A prior history of violent behavior, especially early in life, has been proposed as the best single predictor of future aggression. The childhood "triad of behavior" (fire-setting, enuresis, and cruelty to animals) was traditionally considered an adequate predictor (Earls, 1978), and violent conduct by 8 years of age has been promoted as a reliable prognostic indicator (Lefkowitz, Eron, Walder, & Huesman, 1977). Lewis, Shanok, and Pincus (1979) reported
that for both the violent juveniles (those charged with murder, aggravated assault, armed robbery, and arson) and the sexually assaultive juveniles in their study, the average age at which deviance was first documented was 6 years.

In an 18-year follow-up of violent psychiatrically disturbed adolescents, Faretra (1981) found a high prevalence of violent crime in adulthood. Not all violent delinquents go on to commit aggressive offenses as adults, however. Results of a recent study (Lewis, Lovely, Yeager, and Della Femina, 1989) challenged the notion that juvenile violence alone would distinguish between those incarcerated delinquents who would and would not commit violent adult crime. The authors argued that a constellation of particular intrinsic vulnerabilities (cognitive, psychiatric, and neurological) and upbringing in an abusive, violent family was a better predictor of violent adult crime than prior history of violence. Their data suggest that early aggression overpredicts adult aggression in seriously violent delinquents approximately 23% of the time and underpredicts adult aggression in less violent delinquents over 60% of the time.

The Epidemiology of Violent Crime and Delinquency

According to the 1976 National Commission on the Causes and Prevention of Violence (cited in Lester, 1979), violent crime occurs most frequently in large cities, allegedly due to the drift of antisocials to inner city environments or the
operation of predisposing factors in the core city milieu (Cadoret, 1986). Among often-cited sociological correlates of violent crime are low income areas with high unemployment and high population density, concentrations of ethnic minorities, overcrowded and substandard housing, low levels of education and vocational skills, father absence, and working mothers (Lester, 1979).

It should be noted that modern theories of criminality and delinquency (e.g., Reid, 1976; Taylor, Walton, & Young, 1973) challenge the assumptions underlying the identification of these traditional demographic patterns, question the reliability of official crime statistics, and assert that criminal behavior is uncorrelated with any individual-level characteristic (Hindelang, Hirschi, & Weis, p. 14). Schur (1973), for example, denounced the correlates of "official delinquency" as artifactual:

... if one wanted a true picture of the extent and distribution of law-violating behavior, it would be necessary to obtain data from samples drawn from the general population, instead of relying on the patently misrepresentative "samples" made up of persons who had been institutionalized or processed through the courts. (p. 156)

Although the extent to which such objections are relevant to statistics on violent crime is unclear, these nontraditional perspectives raise important issues. For example, the
incidence of intrafamilial violence (spouse abuse, child abuse) has been shown to cut across demographic lines, occurring among all ethnic and socioeconomic groups. Violent and assaultive behavior within families, which has only been criminalized in the recent past, remains underreported and less likely to result in incarceration than similar acts perpetrated against nonrelatives.

Official crime statistics, despite their limitations, do furnish data on violent individuals who have come into contact with the legal system. Perpetrators are primarily males between the ages of 15 and 24 from the lower social classes, with African-American youths committing the highest proportion of violent crime. These individuals are also more likely to be the victims of violent crime: for African-American males between the ages of 15 and 24, the death rate from murder is 20 times the comparable white rate (Brill, 1980). Approximately 80% of homicide victims are persons with whom the perpetrator is intimate or at least acquainted (Houts, 1970), as are most victims of assault (Lester, 1979).

Youths between the ages of 10 and 17 constitute about one-fifth of the population but account for more than half of serious crimes in the United States (Brill, 1980). However, even in juvenile offender populations, the base rate for violent crime is low: only 4% of juvenile arrests are for violent offenses, the vast majority of which do not involve
physical injury requiring medical attention. In part, these figures reflect the fact that many youths are brought into the juvenile justice for status offenses such as truancy or runaway. For example, the Texas Juvenile Probation Commission report for 1991 showed 557 referrals for felony offenses against persons (homicide, sexual assault, aggravated assault) and 1,396 for status offenses.

Violence by juveniles is undeniably escalating and since 1960 has been increasing twice as fast as that of adults. Illegal substances (especially cocaine), media violence, and the breakdown of the family are presumed to be factors in this increase. In addition, the availability of sophisticated weapons, primarily guns, and their emergence as a status symbol is widely cited as a contributing cause ("More Houston Teens Shooting," 1992; Sorrentino, 1975). Although juvenile murder convictions constitute only a small fraction of homicides prosecuted annually, perhaps as few as 500 out of 20,000 (Miller, 1991), the number of convictions is a misleading indicator of the extent of juvenile violence because in many cases legal prosecution is not pursued. Failure to prosecute may be related to such issues as the viability of the evidence or the willingness of witnesses to cooperate. When the case is weak and conviction is uncertain, determinate sentencing by a juvenile court, which usually insures longterm confinement, may be considered preferable to prosecuting the suspect as an adult.
Due to philosophical principles, such as a persistent bias against harsh treatment for juveniles, as well as pragmatic considerations, such as the expense of detention facilities for dangerous youths, interventions have tended to be mild, often consisting of probation. In some locales, only 10% of juveniles who commit a single violent offense and only 20% of those convicted of five or more offenses have been placed under custodial supervision or imprisoned (Kerby, 1978, cited in Brill, 1980). Attitudes regarding the accountability of juvenile offenders may be shifting, however. Over the past decade, some prominent lawmakers have advocated the elimination of Juvenile Court for violent adolescents, arguing that differential legal status for serious juvenile offenders represents a misguided and unrealistic attempt at humaneness (Brill, 1980). Furthermore, some states (e.g., New York and Texas) have reduced the age at which juveniles charged with serious felonies may be considered for discretionary transfer to adult court.

Statistics and expert opinion indicate that juvenile violence resembles adult violent crime in that males commit the overwhelming majority of juvenile homicides (93% of youths arrested for homicide in 1988 were male); ethnic minorities are overrepresented (75% of youths arrested for homicide in 1988 were ethnic minorities, 50% African-American and 25% Hispanic); an "undoubtedly high percentage of
juvenile homicides are committed by youngsters living in poverty" (C. P. Ewing, quoted in Freiberg, 1990); and a significant portion of violent juvenile crimes are committed against persons known to the offender (approximately 20% of murders by juveniles are committed against family members). Rates of violent crime among women are increasing but remain low (Shumer, 1983).

A considerable proportion of adult violent offenders have no adult offense history (Hood & Sparks, 1970). Pittman and Handy (1964), for example, reported that 37% of aggressive assaulters were first offenders, while Gillin (1946) found that 47% of murderers had no prior criminal convictions. It is possible, however, that the practice of sealing juvenile records results in a misleading picture for these aggressive adult offenders. De Blanc (1979, cited in Brill, 1980) reported that most persons charged with serious felonies (burglaries, robbery, rape, murder) were in their early twenties and had long juvenile records. Furthermore, not every criminal act is followed by arrest and conviction.

Nevertheless, the finding of no offense history may hold to some extent for homicidal adolescents. In a study of 72 juveniles charged with homicide, approximately 50% had no prior arrests (Cornell, Benedek, & Benedek, 1987, cited in Freiberg, 1991). Callahan and Ornduff (1992) reported that 37.5% of the 40 juveniles charged with murder in their study had no prior offense at all, and 45% had no prior felonies.
Individuals charged with violent crimes tend to commit violent crimes when they reoffend, however. For example, Hood and Sparks (1970) found that approximately 40% of adults arrested for murder or manslaughter were subsequently arrested for aggravated assault. Callahan and Ornduff (1992) found that 27.5% of juveniles with current charges of aggravated assault had prior charges of felony or misdemeanor assault. Fifteen percent of juveniles charged with murder in their study had prior aggravated assault charges (Callahan & Ornduff, 1992). Furthermore, there is evidence that the 6% of juvenile delinquents who are chronic offenders, i.e., who have five or more contacts with the authorities, account for a disproportionate number of violent crimes, perhaps over 50% (Wolfgang, 1974).

According to forensic psychologist and attorney C. P. Ewing, "both the annual number and annual rate of juvenile homicides [as a percentage of all homicides] have been increasing, will continue to increase, and will probably reach all-time record proportions before the turn of the century" (quoted in Freiberg, 1990, p. 1). Although federal crime statistics indicated that violent crime in the United States decreased in the 1980s, the number of youths arrested for murder in the United States more than doubled during the last half of that decade, increasing from 1,004 in 1984 to 2,208 in 1989. Persons under age 18 now account for more than 10% of all homicide arrests, and Ewing predicts that
there could be 6,000 or more juvenile homicides by the year 2000 (Freiberg, 1990).

Correlates of Juvenile Violence: Empirical Studies

Sociological factors. Although unequivocal supporting evidence is lacking, persons who commit violent crimes have long been presumed to constitute a distinct class of criminal. A traditional approach to the problem of juvenile violence has been the identification of various correlates of violent behavior by which violent adolescents could be differentiated from their nonviolent delinquent peers. As previously indicated, the predominant violence-related variable is maleness; the second is youth (Palmer, 1973).

The incidence of violent juvenile crime has also been related to socioeconomic, geographic, ethnocultural, and family relationship variables, with the latter receiving extensive consideration. Unfortunately, research examining environmental and sociological variables has failed to identify specific characteristics which are intrinsic to a violent behavioral disposition (Tarter, Hegedus, Alterman, & Katz-Garris, 1983). For example, while broken families have frequently been associated with violent delinquency (e.g., Robins, 1966; West & Farrington, 1977), inconsistent findings from various empirical studies make the nature of the relationship unclear. Chilton and Markle (1972) and Toby (1966) found that father absence in itself was related to juvenile violence, while another study of male juvenile
felons, all of whom were from father-absent homes (Henggeler, Hanson, Borduin, Watson, & Brunk, 1985), found that violent offenders had poorer relationships with their mothers than did nonviolent offenders. Many studies have uncovered no relationship between juvenile violence and broken homes (e.g., Linder, Zambrowsky, & Cormier, 1974) or have reported the apparently anomalous finding that violent male delinquency was associated with familial intactness (Andrew, 1978).

The role of cognitive functioning. The intellectual capacity of juvenile delinquents has been widely investigated. In line with Cleckly's (1976) view that the typical adult psychopath exhibits good intelligence, there is little in the literature to suggest that intellectual deficiency is a general characteristic of delinquent youths. However, cognitive impairment (operationalized as an inability to remember 4 digits backward) has been shown to distinguish delinquent from nondelinquent youths (Lewis, Pincus, Lovely, Spitzer, & Moy, 1987), and distinct features of cognitive capacity in psychopaths have been identified. In particular, Wechsler (1958) pointed out that adult psychopaths tend to score higher on the performance (P) subscale of the Wechslser intelligence test than on the verbal (V) subscale, a finding confirmed in juvenile delinquents (Andrew, 1977).
With respect to violent crime, on the other hand, a relationship between low intelligence and violence has received some empirical support. Several authors have reported that low intelligence and mental retardation play a role in homicide (e.g., Lanzkron, 1963; Szymusik, 1971). Heilbrun and Heilbrun (1985) went so far as to argue that the psychopath functioning at a relatively high intellectual level is no more dangerous (violent) than the nonpsychopath. In an archival study of male juvenile delinquents, Walsh, Beyer, and Petee (1986) supported this contention by showing that low-intellectual-functioning psychopathic juvenile delinquents tended to be significantly more violent than were low or high-intellectual-functioning nonpsychopathic delinquents or high-intellectual-functioning psychopathic delinquents. It should be noted, however, that these researchers relied exclusively on a verbal-performance discrepancy of 15 or more points to ascribe a diagnosis of psychopathy to their subjects. One problem with this methodological approach is that African-American youths, who account for a high proportion of violent crime, have been reported to be significantly underrepresented among high $P > V$ scorers (Petee & Walsh, 1987). An alternative method for categorizing youths as psychopathic would insure that results could be generalized to the actual delinquent population, which includes a high percentage of African-American youths.
Hays, Solway, and Schreiner (1978) compared the intellectual characteristics of juvenile murderers with those of status offenders. On the Wechsler Intelligence Scale for Children (Wechsler, 1949; WISC), the Full Scale IQ, Verbal IQ, and Performance IQ scores for the murderers were significantly lower than those of the status offenders. The intellectual pattern of juvenile delinquents was judged similar to that of their adult counterparts in that a lower general intellectual level was attained by violent juveniles relative to nonviolent juvenile offenders (Hays et al., 1978). Tarter et al. (1983) compared violent and nonviolent juveniles who had been screened for neurological abnormalities or history of brain trauma on a broad range of neuropsychological, psychoeducational, and intellectual measures and reported few significant results. However, Tarter et al. (1983) did find that Full Scale IQ on the Wechsler Intelligence Scale for Children - Revised (WISC-R; Wechsler, 1974) and the Wechsler Adult Intelligence Scale - Revised (WAIS-R; Wechler, 1981) were negatively correlated with violence ratings on the Andrew Violence Scale (Andrew, 1974; Appendix). Busch, Zagar, Hughes, Arbit, and Russell (1990) reported that teenage killers could be differentiated from matched nonviolent delinquents by mental retardation (a diagnosis based on significantly subaverage measured IQ and impairment in adaptive functioning) or by low full scale IQ scores.
P > V discrepancy itself has been examined as a potential predictive indicator of violent behavior patterns. Walsh and Beyer (1986) reported that juvenile delinquents with performance over verbal discrepancies of 15 or more points on the WISC obtained higher mean violent crime scores on the Andrew Violence Scale (Andrew, 1974). Petee and Walsh (1987) also showed that P > V discrepancy scores can differentiate between group means on violent behavior with less extreme cutting points if the mean discrepancy scores between the two groups are statistically significant.

Specific differences in cognitive functioning between violent and nonviolent juvenile delinquents on the WISC have been investigated, with few results of practical utility. For example, Andrew (1982) found that delinquents obtained superior scores on the WISC Digit Span subtest (a performance scale measure of short-term auditory memory) compared with their scores on verbal subtests which tap long-term, meaningful, verbal memory. She observed that this effect was more pronounced for the more violent delinquents (Andrew, 1982). Tarter et al. (1983) found that violence ratings on the Andrew (1974) scale were negatively correlated with four subtests of the WISC-R or WAIS-R (Information, Similarities, Vocabulary, and Picture Completion). Hays and Solway (1977) found that juvenile offenders who had committed violent offenses against persons (murder, aggravated rape, aggravated assault, aggravated robbery) attained lower Similarities
subtest ratio scores (ratio of Similarities subtest score to the total scale score, $M = 9.44$) than did individuals in a general delinquent population ($M = 11.1$). Furthermore, the Similarities ratio for violent juveniles was approximately equivalent to that of serious juvenile offenders in an earlier study against whom a discretionary transfer motion to adult court had been filed ($M = 9.45$). These results confirmed an earlier study (Kunce, Ryan, & Eckelman, 1976) which found a lower Similarities ratio for violent adult offenders. Ultimately, however, Hays and his colleagues concluded that the Similarities ratio was an unreliable index for differentiating violent and nonviolent juvenile offenders, as they and other researchers (e.g., Shawver & Jew, 1978) were unable consistently to replicate their findings (Hays et al., 1978).

The Lewis studies. Dorothy O. Lewis and her colleagues have carried out extensive clinical and epidemiological studies on juvenile delinquents, especially violent offenders, and are among the preeminent investigators focusing on neuropsychiatric impairment in violent juveniles. Lewis and her associates (Lewis, Shanok, Cohen, Kligfeld, & Frisone, 1981) have also compiled evidence that race is a major factor distinguishing incarcerated adolescents from their psychiatrically hospitalized peers: "The same kinds of aggressive behaviors that in black adolescents lead to incarceration are in whites are more likely to be recognized
as evidence of psychiatric disorder and lead to treatment" (Lewis, 1983, p. 712).

Following a line of inquiry initiated by Pasamanick (1956) and others (e.g., Stott, 1957) regarding a possible relationship between maternal malnutrition and illness in pregnancy and behavior disorders in children, these researchers (e.g., Lewis & Shanock, 1979; Lewis, Shanok, & Pincus, 1979) have documented a high prevalence of perinatal difficulties (ranging from maternal syphilis to postnatal apnea requiring intubation), head and face trauma, and child abuse and/or neglect in the medical histories of seriously delinquent juveniles, with violent juveniles having significantly more perinatal difficulties, accidents, injuries, and admissions to hospital wards than their nonviolent delinquent peers (Lewis, Shanok, & Balla, 1979). In one study (Lewis, Shanok, Pincus, & Glaser, 1979), almost 50% of violent delinquents were found to have neurological problems such as psychomotor symptoms, a history of seizures, or a grossly abnormal electroencephalogram (EEG). Other researchers (e.g., Brickman, McManus, Grapentine, & Alessi, 1984) have used the Luria-Nebraska Neuropsychological Battery (LNNB; Golden, Hemmeke, & Purisch, 1980) to document a distinctly abnormal pattern of neuropsychological functioning in violent delinquents. In contrast, gross neurological dysfunction was uncommon in a more heterogeneous sample of seriously delinquent youths (McManus et al., 1985).
The Lewis studies have also uncovered an association between juvenile violence and seizure disorders, a relationship that apparently does not hold for adult offender populations (Gunn & Bonn, 1971; Gunn & Fenton, 1971). Investigating a small sample of juvenile offenders with psychomotor epilepsy, most of whom had a history of central nervous system trauma or grand-mal seizures, Lewis, Pincus, Shanok, and Glaser (1982) reported that all 11 of these subjects had committed seriously violent acts. Furthermore, psychomotor epilepsy was correlated with psychotic symptoms, including auditory and visual hallucinations, paranoid ideation, and loose, rambling, illogical thought processes.

Lewis et al. (1985) conducted a prospective study of nine male subjects who had been evaluated in adolescence and within a few years went on to commit murder. All nine subjects evinced severe neuropsychiatric impairment (e.g., macrocephaly, abnormal EEGs, grand mal seizures), showed psychotic symptoms (primarily paranoid ideation), had first-degree relatives who were either psychotic or had been psychiatrically hospitalized, and had prior histories of serious early aggression. Most of these individuals had both witnessed and experienced violence in their homes. In a subsequent study of the role of these five factors in violent juvenile behavior (Lewis et al., 1988), homicidal delinquents were shown to differ dramatically from nonviolent delinquents.
but to be remarkably similar to other extremely violent juveniles who had not committed murder.

Busch et al. (1990) addressed some of the limitations which had characterized previous research on homicidal adolescents (e.g., small sample size, incomplete evaluations) by comparing 71 juveniles who had been convicted of murder with a control group of nonviolent delinquents matched by age, race, sex, and socioeconomic status (SES). The large sample size permitted a stepwise discriminant analysis of data obtained from a wide variety of diagnostic and evaluative procedures, including intelligence and educational testing, psychiatric assessment, medical histories, and physical examinations. Busch et al. (1990) found that it was possible to differentiate juveniles convicted of homicide from nonviolent delinquents on the basis of a tetrad of symptoms: criminally violent family members, gang membership, severe educational difficulties, and alcohol abuse. Sixty-eight percent of the murderers had three or more of the above symptoms. Homicidal adolescents also evidenced more epilepsy (7% vs. 1%) and more central nervous system pathology (7% vs. 1%) than did nonviolent juvenile offenders. Busch et al. (1990) concluded that their results were consistent with the biopsychosocial theories of the Lewis group regarding adolescents who kill.

Lewis and her associates have emphasized that neither neurological impairment nor psychiatric disorder will
necessarily culminate in violence unless neuropsychiatrically vulnerable youths suffer dire physical abuse themselves or are otherwise exposed to extreme aggression (Lewis, 1983). Results from one study (Lewis et al., 1979) showed that, compared with 33% of the less violent youths, 75% of violent juveniles had experienced brutal physical abuse or torture. In addition, 78% of the aggressive group had witnessed "extraordinary" (Lewis, 1983, p. 712) familial violence. Lewis (1983) admits, however, that the mechanism for engendering aggression in these violent juveniles remains a source of speculation.
CHAPTER II
AGGRESSION: PSYCHODYNAMIC FORMULATIONS

Although empirical research offers informative data regarding the numerous biopsychosocial variables associated with aggression, psychodynamic theory may be more successful in explaining the intrapsychic factors that play a role in the etiology of juvenile violence. Traditional psychoanalytic theories of juvenile delinquency and aggressiveness have variously emphasized the role of instinctual impulses, ego deficits, or superego distortions. More recently, object relations theory, an offshoot of classical analytic theory which came into prominence in the 1970s, has made important contributions to the understanding of the etiology of antisocial behavior. In particular, Otto Kernberg (1970) has proposed a psychoanalytic classification of character pathology which synthesizes major developments in ego and superego, drives, and object relations.

Theoretical Contributions from Classical Psychoanalysis

The early period. Among the earliest psychiatric references to homicidal juveniles are several case histories of children with murderous impulses published by French psychiatrist and hospital reformer Jean Étienne Dominique Esquirol (1772-1840) in his authoritative text Des maladies
Esquirol, however, was primarily concerned with classifying psychiatric disorders and describing mental symptoms. In keeping with the views of most other Continental psychiatrists of the period, he maintained that mental disorders usually reflected a chronic cerebral impairment. Therefore, he offered no insight into possible psychological motivations underlying the disturbed behavior of the homicidal children whom he described.

Like Darwin's evolutionary theory in the nineteenth century, the psychoanalytic theory of Sigmund Freud (1856-1939) widely influenced twentieth-century theorists of criminal behavior (Megargee & Bohn, 1979). Early in his psychoanalytic endeavors, Freud became interested in the occurrence and interpretation of aggressive fantasies in childhood. For example, in late 1897, during a period of intense self-analysis, Freud first apprised Wilhelm Fliess that he had begun to penetrate the significance of infantile murderous impulses directed against the same-sex parent (Freud, 1985). Later, in The Interpretation of Dreams, Freud (1900/1965) described in detail the way unconscious, repressed parricidal wishes are transformed or symbolically disguised in dreams and neuroses. He subsequently elaborated these phenomena as evidence of a general Oedipus Complex which, if unsuccessfully resolved, purportedly forms the nucleus of every psychoneurosis (Freud, 1908/1959).
When, in *Totem and Taboo* (1912-1913/1950), Freud extended his theorizing to social psychology, he cited two case histories of young male children, Little Hans and Little Arpad, whose neurotic behaviors he considered indicative of displaced hostile impulses against their fathers. In this work, Freud (1913/1950) went so far as to posit a factual murder of the father committed by young males in an ancient horde. Freud’s contention that such a prehistoric patricide had actually occurred was a daring and unprovable suggestion which his most recent biographer has dismissed as "sheer extravagance" (Gay, 1988, p. 331). As Gay (1988) correctly points out, Freud (1912-1913/1950) believed that in neurotic individuals the unconscious hostile wish served as a substitute for the actual deed. However, it is important to remember that Freud also insisted that children passed through an "evil period" in infancy during which they experienced their "evil impulses pure and simple" and carried them out "so far as the impotence of childhood allowed" (Freud, 1912-1913/1950, p. 161). Furthermore, Freud believed that children who committed murder harbored death wishes toward parents who had been rejecting, physically abusive, and inconsistent in their parenting (Freud, 1939, cited in Busch, Zagar, Hughes, Arbit, & Russell, 1990).

From 1911 to 1926, Freud was engaged in reformulating his basic hypotheses, including the problem of aggression. In one of his earliest psychoanalytic essays, he (Freud,
1905/1962) had focused on destructiveness or cruelty as a
derivative of the sexual instinct, a component of the drive
to subjugate the sexual object (p. 24). A decade later, he
suggested that aggressive impulses were part of the ego
drives (Freud, 1915/1957). In clarifying his structural
concepts, however, it became necessary for Freud to posit
aggressive impulses as manifestations of a primary,
independent aggressive drive or "death instinct" (Freud,
1920/1955) which has as its aim a return to the constancy of
inorganic matter, an old idea which he had discussed with
Breuer as early as 1892 (Hartmann, Kris, & Loewenstein,
1949).

Freud's dual instinct hypothesis is one of the most
controversial aspects of psychoanalytic theory and consensus
regarding the aggressive drive (sometimes termed destrudo) is
less widespread in the literature than is agreement about the
sexual impulse or libido (Pine, 1990). As Gay observes,
however, Freud's distinction between the death instinct and
its outward expression as sheer destructiveness or hostility
in the highly speculative, biologically oriented Beyond the
Pleasure Principle (1920/1955) allowed ego psychologists like
Heinz Hartmann to focus on examples of the aggressive
instinct (e.g., wars, feuds, competitive sports, sarcasm,
psychosomatic illness) while rejecting Freud's "epic vision
of Thanatos confronting Eros" (Gay, 1988, p. 402). Other
followers, notably Melanie Klein (1882-1960), did not retreat from the full implications of an innate aggressive instinct. Klein, whose contributions will be examined in a later section, frequently engaged in theoretical debate with Freud's daughter Anna, who had inaugurated the profession of child analysis. Like Klein, Anna Freud (1895-1982), was concerned with the role of aggression in emotional development and its pathological expression in children. She argued that violent children came from disrupted or chaotic home environments and had suffered impairment in their erotic emotional development due to "adverse external or internal conditions, such as absence of love objects, lack of emotional response from the adult environment, breaking of emotional ties as soon as they are formed, deficiency of emotional development for innate reasons" (A. Freud, 1949, p. 41), leaving their aggressive urges unneutralized.

Hartmann et al. (1949) concurred with this formulation, asserting that the establishment of a lasting object relationship depends in part on the inhibition of aggressive impulses and the neutralization of residual aggressive energy. Furthermore, deaggressivization of the aggressive instinct permits the emergence of a modified form of energy which is crucial for the development of effective ego functions and the institution of a higher-level defensive system. Defects in early regulatory functions, especially those involved in delaying and controlling the forms of
tension release (e.g., tantrums, enuresis), are often noted in the histories of juvenile delinquents. Such deficiencies have a negative impact on the child's capacity to cope with and integrate aggressive drive derivatives. The ability to effect tension release is the foundation for later ego functions such as substituting thought for action and exercising self-control (Chethik, 1979).

Although Sigmund Freud confined his actual clinical work to adult patients (in 1909 he treated Little Hans via interviews with the boy's father), he believed that neurotic adolescents or even younger children could benefit from psychoanalytic treatment (Freud, 1904/1963), and he noted approvingly the efforts of Klein and Anna Freud to develop the techniques of child analysis (Freud, 1935/1959). Anna Freud (1958) produced an influential paper on adolescence in which she described the emotional upsets and turmoil of the teenage years as both inevitable and desirable. She ultimately concluded, however, that most adolescent patients were unsuited to analysis because they had "a lower threshold for frustration, a preference for action rather than verbalization of feelings, and new weaknesses and immaturities of ego structure" (Mishne, 1986, p. 7).

For juvenile delinquents who lacked the prerequisite psychical structures, however, Sigmund Freud had recommended "something other than analysis" but at one with analysis in its purpose (Freud, 1925/1961, p. 274). August Aichhorn
(1878-1949), a Viennese reformatory director and an associate of Anna Freud, was the first psychoanalyst to employ psychoanalytic techniques in the systematic treatment of aggressive delinquents. In *Wayward Youth*, Aichhorn argued that dissocial behavior or the "symptoms of delinquency" (1935/1963, p. 38) resulted from an underlying disharmonious interplay of psychic forces due to aversive early childhood experiences. According to Aichhorn, in order to reduce the tendency toward delinquency, the therapist must alter the ego structure of the child. In the United States, Fritz Redl and David Wineman (1951, 1952), two practitioners who were deeply influenced by Aichhorn, have similarly emphasized that aggressive delinquents lack an ego which is appropriate for managing their impulsivity.

**Later trends and developments.** From the 1940s to the 1960s, classical psychoanalytic perspectives on violence continued to focus on the concepts of displaced aggression, projection, structural deficiencies, and internal disequilibrium. Many clinicians and researchers (e.g., Menninger, 1963; Smith, 1965) emphasized the role of an impaired or underdeveloped ego in outbursts of uncontrolled aggression, while others cited the apparent failure of internalized standards and prohibitions (superego) to act as a control on behavior. Robert Lindner (1943, 1945) described the aggression, hostility, and impulsivity of the psychopath as homeostatic adjustments, releases of tension aimed at
restoring intrapsychic balance. In *The Vital Balance* (1963), Karl Menninger reaffirmed this hydraulic hypothesis, stating that Linder's views were identical with his own (p. 229). Even homicide was alleged to have adaptive aspects; for example, Menninger and others (e.g., Reichard & Tillman, 1950; Malmquist, 1971) asserted that an individual with a severely disrupted ego might commit murder in order to forestall psychosis.

In order to explain the motivation behind acts of aggression, psychodynamic theorists identified unconscious dynamic factors. According to Menninger (1963), murder could be a type of disguised suicide, with the victim representing one's "own hated self-image" (p. 239), or the perpetrator of a sudden and apparently senseless act of aggression might be understood as wishing to rid himself of the "dead sister with whom he had had incestuous relations" (p. 239). As Lewis et al. (1985) point out, such psychoanalytically oriented explanations dominated the literature in the early 1960s, a time when juvenile violence, especially violence directed against family members, began to receive increasing attention. One well-known formulation was the notion of a "family conspiracy" whereby the aggressive child was supposedly induced to enact an unconscious parental wish (e.g., Easson & Steinhilber, 1961; Sargent, 1962), a variation on an earlier psychodynamic explanation of general antisocial behavior (Johnson & Szurek, 1952).
To persons working outside of the "Freudian dispensation" (Gay, 1985, p. 14), many of whom are resolutely unreceptive to psychoanalytic ideas, such vivid and disturbing descriptions may seem absurd. One obvious source of misunderstanding is the metaphorical language of psychoanalysis which conveys meaning through striking figures of speech such as "ego rupture." In The Vital Balance Menninger (1963) acknowledges the difficulty created by metaphorical terminology, conceding that such language expresses an imperfect model of psychological functioning. In Freud and Man's Soul Bruno Bettelheim (1982) addresses the problem of miscommunication extensively, but is more concerned with the tendency of metaphorical language to alienate people from psychoanalytic truths. Bettelheim argues, however, that behind the problem lies "a universal wish to remain unaware of one's own unconscious" (p. 7).

In a succinct review of several psychodynamic studies of homicidal adolescents from this period, Lewis et al. (1985) found it easy to fault the psychoanalytic authors (e.g., Eason & Steinhilber, 1961; Martin, 1965) for more cogent shortcomings, especially for what she considered their tendency to ignore or minimize the role of neurobiological variables, such as symptoms of organic brain pathology or a history of enuresis or epilepsy. The fact that these psychoanalytically oriented authors focused on significant psychodynamic factors in aggressive behavior, however, does
not necessarily indicate a failure to appreciate the influence of other variables. After all, Freud himself described behavior psychoanalytically but did not dismiss the importance of organic or constitutional factors. In fact, he (Freud, 1940/1964) asserted confidently that one day behavior would be explained by physico-chemical processes.

The insights of Karl Menninger may be relevant. A medical doctor and leading American psychoanalyst of the 1930s and 1940s, Menninger was explicit about the role of organicity in violence, such as that associated with brain-damage syndromes, fugue states, and psychomotor epilepsy. Even in these cases, however, he thought that the psychological component was undeniable. For example, in discussing a study by Woods (1961) in which violent children and adolescents (whose behaviors included fire-setting, aggressive sexuality, and murder) were confirmed to have a pathological nonepileptic EEG pattern, Menninger (1963) quotes the author’s observation that "ego function cannot be separated from the organic matrix through which it operates" (Woods, 1961, quoted in Menninger, 1963, p. 246). Elsewhere he appreciates Davidson's (1957) attempt to correlate the defensive operations which characterize the manic phase of manic-depression, a disorder which Menninger (1963) viewed as fundamentally aggressive, with the biological research of Hebb (1949) and of Humphrey (1951). In Menninger's view,
such disorders represented psychological disturbance, not merely neurological disease.

Menninger (1938) conceptualized aggression very broadly and remained faithful to Freud's idea of the aggressive instinct. Thus, he recognized the destructive instinct in such phenomena as asceticism, organic disease, alcohol addiction, polysurgery and—citing Gardner (1949)—in even so mundane a criminal act as stealing (Menninger, 1963, p. 235). Menninger (1963) proposed a unitary theory of mental illness in which he defined levels of personality dysorganization on a continuum of ego function. He delineated a syndrome involving chronic, repetitive, aggressive behavior indicative of a persistent permeability of the ego:

The individuals manifesting these syndromes are more aggressive, more lacking in common sense, more unrealistic, more detached from a sense of the past, and more lacking in a reasonable vision of the future and more disinclined to seek or accept help than are individuals commonly described as "neurotic." But at the same time the former are less disorganized and less out of contact with reality than are the patients [diagnosed as] . . . "psychotic." (p. 235)

Here Menninger is outlining features of the antisocial personality, a type of character pathology which he felt was characterized by "outbursts of undisguised and seemingly uncontrolled aggression" (Menninger, 1963, 236). To some
extent, his description anticipates Kernberg's (1970) view that persons with antisocial personality structure represent a lower-level of personality organization on a continuum of character pathology. In his psychoanalytic classification of character disorders, Kernberg (1970), who is arguably the most prominent contemporary representative of the object relations school, dealt with the structural consequences to the ego and superego which resulted from pathological object relations.

**Object Relations Perspectives on Aggression**

**Overview.** Object relations theory dates back to at least the 1930s but has attained a prominence in clinical and theoretical circles since the mid-1970s. Object relations theory offers a unique way of construing the events of early childhood, with a de-emphasis on Freud's central concepts of the Oedipus complex and drive reduction in favor of a focus on pre-oedipal experiences and interpersonal relations.

Citing Kernberg (1976), Smith (1989a) notes that the term object relations theory is rather confusing, as it has been variously applied to Fairbairn's theory of personality, to formulations about psychological functioning based on interpersonal relationships, and to propositions regarding internalized or introjected objects. Freud's (1938/1964) introduction of the concept of splitting is often cited as the developmental origin of the object relations approach, and Kernberg (1984) goes so far as to suggest that
"psychoanalysis as a general theory constitutes an object-relations theory" (p. 56). In the object relations context, however, the term object essentially signifies a human being (Kernberg, 1976), a usage which distinguishes it from the way object is defined in Freudian theory. For Freud, an object need not be human, or even animate: it can, for example, be a part of a human being (such as the mother's breast), a remnant of the mother's clothing, one's own thumb, or a stuffed animal, i.e., anything that has become the target of a libidinal drive and possesses a potential for discharging energy. Given this distinction, Cashdan (1988) argues that today the term object in object relations theory is a mere "vestigial by-product of traditional psychoanalysis and should be replaced by the term 'human'" (p. 4).

Although a unified object relations approach does not exist, competing formulations share an emphasis on the individual's interactions with other human beings, especially the primary caregiver, regardless of whether these relationships are "internal or external, fantasized or real" (Cashdan, 1988, p. 3). The influence of psychoanalytic theories of ego psychology on the object relations perspective has been acknowledged (Kernberg, 1966) and it is sometimes difficult to classify theorists in one camp or another. With its attention to interpersonal relationships, the neoanalytic school, represented by Harry Stack Sullivan (1892-1949) and Karen Horney (1885-1952), has also
contributed much to the object relations approach (Pine, 1990). Sullivan (1953), for example, traced the etiology of adult behavior disorders to the threat of parental disapproval during infancy. Of the many theorists who can be placed under the general rubric of object relations, those whose views are particularly relevant to an understanding of juvenile violence include Melanie Klein, W. R. D. Fairbairn, D. W. Winnicott, Heinz Hartmann, Erik Erikson, Margaret Mahler, and Otto Kernberg. Edith Jacobson (1964) has also made important contributions related to normal and pathological stages of superego development.

The British objects relations schools. Melanie Klein, a contemporary of Freud, applied orthodox psychoanalytic techniques in the treatment of young children and is well-known for her innovative use of play therapy. Her views have been described as representing a midpoint between classical drive theory and the object relations perspective (Greenberg & Mitchell, 1983; Pine, 1990). In The Psychoanalysis of Children (1932/1954), she suggested that libidinal dominance was less important in children than was their need to construct an interpersonal world based on internal representations of significant figures in their lives. Klein extrapolated Freud's concepts of Oedipal hostility and guilt back to the earliest period of extrauterine development, asserting that an infant could feel hostile not only toward its Oedipal rival (i.e., the
opposite-sex parent) but also toward the mother whose ministrations inevitably provoked feelings of malevolence and destructiveness as well as love and tenderness.

Klein accepted Freud's view of aggression as a derivative of the death instinct. She considered that the child projects the intrapsychic struggle between libido and destructiveness onto external reality, dividing the world into good and bad. These good and bad objects are then "reintrojected to produce an inner representational world that is split into destructive (bad) and benevolent (good) components" (Cashdan, 1988, p. 6). In the earliest developmental stage (birth to 3 or 4 months), which Klein terms the paranoid-schizoid position, the child forges its original object relation with the mother's breast, a part-object. The child experiences positive feelings toward the breast that is loved for furnishing comfort and nourishment and negative feelings toward the breast that is the recipient of the child's own destructive urges (e.g., biting, devouring, incorporating). The introjection of the negative images associated with the breast, specifically the fear that the breast which the infant attacks and annihilates will retaliate in kind, creates "inner turmoil and apprehension" (Cashdan, 1988, p. 7). Splitting, the mental separation of benign and malignant images, is the child's primitive but usually nonpathological mechanism for reconciling its inner urges. In Klein's view, aggression and splitting are intimately related, with
excessive splitting playing a central role in severe psychopathology (Kernberg, 1966).

Although some of her partisans (e.g., Segal, 1979) argue that Klein fully appreciated the role of environmental factors in development, the emphasis in her writings is clearly on the dynamic interplay of instinctual forces, with primary caregivers important only "insofar as they confirm or disconfirm the primitive phantasies and contain or fail to contain the early projections" (Smith, 1989a, p. 40).

William Ronald Dodge Fairbairn (1889-1964), a British theorist who coined the term object relations, made a radical departure from classical psychoanalytic theory by dismissing the notion of libido as a pleasure-seeking biological drive and proposing instead an innate, object-seeking relational orientation. In Fairbairn's formulations, as Pine (1990) observes, the concept of object is modified, no longer referring to any thing that indiscriminately serves to satisfy a drive but to "the whole significant primary caretaker" (p. 29). In addition, Fairbairn's conceptualization of the defensive mechanism of splitting differs from that of Klein who ascribed its origin to conflict between the libidinal and aggressive drives projected onto the external world.

According to Fairbairn (1944/1952), the child relies on splitting to cope with a world which is, in fact, inconsistent and frustrating. The mother, as primary
caregiver, may be typically experienced as gratifying and
good: she feeds the child, provides physical comfort, and is
generally attuned to its needs. At times, however, the
mother will be experienced as ungratifying and bad: she
ignores the child, fails to respond to its cues, is
unsuccessful in comforting it. Because of its dependence on
the maternal figure, even when she is the source of
frustration, the child is innately predisposed to split her
image into good and bad intrapsychic components in order to
preserve the dependent relationship "without constantly
feeling threatened" (Cashdan, 1988, p.10).

Unfortunately, some caregivers are utterly inadequate.
In Fairbairn's view, interactions with a caregiver who is
hostile and withdrawing create an internalized representation
of a bad or rejecting object. In cases of extreme
frustration or rejection, the child experiences itself as
unloved and unwanted and manifests chronic anger and rage
(Cashdan, 1988, p. 11). Although faulted for underestimating
the importance of aggression (e.g., Kernberg, 1966),
Fairbairn's focus on the relationship between actual early
childhood deprivation and feelings of hostility make his
theory relevant to this study.

In his review of psychoanalytic theories of development,
Pine (1990) suggests that the work of Donald Woods Winnicott
represents a bridge between the theory of Klein and Fairbairn
and later contributions (p. 29). In addition to research
involving the direct observation of infants, Winnicott concerned himself with aggression, antisocial behavior, and the relationship between environmental deprivation and delinquency. In some circles (e.g., Greenberg & Mitchell, 1983; Morse, 1972), however, he has been criticized as theoretically inconsistent or overly idiosyncratic. For example, Smith (1989a) acknowledges that Winnicott's "use of the term aggression is peculiarly his own, and its meaning is often elusive" (p. 38).

Although he agreed with Klein that aggression is inborn, Winnicott rejected the Freudian concept of a death instinct. He traced the roots of aggression to the natural impulse of motility, identifying such actions as intrauterine kicking as precursors of aggression (Winnicott, 1964, cited in Smith, 1989a). According to Winnicott, thrashing and lashing out enable the infant to contact and differentiate itself from the external environment; such random actions become aggression proper only when united with destructive intent. Thus, in the earliest phase of development the child may inadvertently strike a parent, causing a reaction that conveys that the act was hurtful. If the child, having learned that the effect is painful, persists in the behavior, it is appropriate to speak of the act as aggressive.

For Winnicott, the environmental response is not only crucial in the shaping of aggression, but also in the development of coping mechanisms such as splitting.
Splitting is "enabled by frustration" (Smith, 1989a, p.40), for the frustrating object relieves the child of guilt about its destructiveness and malevolence and promotes the dichotomous direction of love and hate. The antisocial tendency is a reaction to genuine deprivation, "a real failure of the environmental provision" (Smith, 1989b, p. 66). Furthermore, the function of aggression is explicable in terms of the environment. Thus, "aggression [by an antisocial adolescent] can be understood as purposive" (Smith, 1989a, p. 40) because it can compel the environment to adapt to the individual. Winnicott (1973), writing of delinquency as a sign of hope, explained that the antisocial child seeks to cure the environmental failure by reaching back to a period when the environment was not depriving. Winnicott also emphasized that therapeutic intervention with antisocial youths can succeed if it occurs prior to the rigidification of character defenses.

Psychoanalytic ego psychology. The object relations perspective has been meaningfully informed by ego psychology, with which it shares a common set of interests. In fact, Fromm (1989) considers Winnicott's work to be "his [Winnicott's] own personal integration of ego psychology themes with an object relations emphasis" (p. 3), "parallel and fully consonant with the work of Hartmann, Kris, Lowenstein, Rapaport, Erikson, Spitz, Bowlby, and Mahler" (p. 8). An exhaustive examination of the psychoanalytic ego
psychology tradition is beyond the scope of the present study. Kernberg (1966), however, has succinctly reviewed the commonalities of the two approaches.

Psychoanalytic theories of ego psychology focus on constitutional factors and innate apparatuses that ensure the development of reality testing, adaptation, and defense. Ego is regarded as an organizing entity in personality which, as Pine (1990) emphasizes, tends toward "a certain inertia" (p. 90), maintaining its own coherence and consistency in order to avoid negative affect. The conceptualization of a relatively inflexible or stable ego recalls Wilhelm Reich's (1933/1949) concept of character armor. Reich advanced the idea of a hardened ego underlying pathological character formation, but he believed that it originated solely in infantile instinctual conflict, in contradistinction to ego psychology theory (e.g., Erikson, 1950) which takes into consideration the role of the environment in facilitating or inhibiting the successful completion of phase-specific tasks. Hartmann (1939/1958), for example, viewed development as directed toward adaptation with an adequate reality and delineated the role of the ego in mediating between internal structures and external environment.

Contemporary object relations theories. Margaret Mahler (1968; 1971) is an object relations theorist who appreciates the mediating effects of ego functioning as well as the crucial significance of the child's early bonding
She discusses the aggression-related consequences which arise from disruptions in the early mother-child relationship. Mahler (1971) points out that infants pass through a normal period of symbiotic attachment to the maternal figure (until about the fifth month) during which no differentiation between self and mother has been achieved. The period of symbiotic attachment is followed by a phase Mahler terms separation-individuation:

During the time of normal symbiosis, the narcissistically fused object is felt to be "good," i.e., in harmony with the symbiotic self, so that primary identification takes place under a positive valence of love. Later on, after separation, the child may have encountered "bad," frustrating, unpleasaurable, even frightening experiences in his interaction with mother and "other," so that the image of the object may have assumed a "negative emotional valence" (Heimann, 1966). (p. 411)

If the intrapsychic separation-individuation process occurs too abruptly or proceeds without the beneficial, modulating function of the ego, the object is more likely to remain a bad introject. According to Mahler (1971), "in the effort to eject this 'bad' introject, derivatives of the aggressive drive come into play and there seems to develop an increased proclivity to identify with, or to confuse, the self representation with the 'bad' introject" (p. 412). The ultimate achievement of the separation-individuation process
is the attainment of libidinal object constancy, that is, the development of a stable inner representation of the maternal presence. Commenting on Mahler's theory, Cashdan (1988) explains that failure to achieve libidinal object constancy leads to the eventual onset of psychopathology:

Achievement of libidinal object constancy presumes that positive and negative maternal introjects have been integrated. If integration is incomplete, the child—and later the adult—responds to those in his interpersonal environment either as punitive and rejecting or as unrealistically gratifying. (p. 15)

Like Mahler, Otto Kernberg, the leading contemporary object relations theorist, believes that "the origins of severe psychopathology are lodged in deficient or distorted object relations that have become a part of the patient's inner world" (Cashdan, 1988, p. 16). Kernberg, who considers object relations theory an extension of psychoanalysis, has developed his thinking on character pathology in a series of monographs (e.g., Kernberg, 1966, 1967, 1970, 1974, 1977, 1984). Among others to whom he has acknowledged his indebtedness, Kernberg (1967) has credited ego psychologist Edith Jacobson (1964) with clarifying the structural consequences to ego and superego formation caused by pathological object relations in characterologically disordered patients. Identifying the mother-child relationship as the wellspring of psychological growth,
Kernberg postulates a developmental process that involves introjection (a primitive process whereby images of self and other with their associated affective coloring are internalized), identification (a more elaborate, higher-level process implying the internalization of roles), and ego identity, the latter representing "the highest level organization of the world of object relations" (Kernberg, 1966, p. 243). Along with other object relations theorists, he regards the persistent and predominant use of primitive splitting as a defensive operation as a symptom of serious character pathology.

Kernberg proposed a psychoanalytic classification of character pathology in which he described character pathology on a continuum and incorporated three major pathological developments: (a) pathology in ego and superego structures, (b) pathology in the internalized object relationships, and (c) pathology in the development of libidinal and aggressive drive derivatives (Kernberg, 1970). Of particular relevance to this study is his conceptualization of the lower level of organization of character pathology, the level at which Kernberg maintains all patients with clear-cut antisocial personality are organized (Kernberg, 1967, 1970).

According to Kernberg's (1970) formulation, individuals at the lower level of character pathology (also termed borderline or infantile personality structure) have a minimally integrated superego with a concomitant impairment
in their capacity for experiencing guilt. They rely on primitive dissociation or splitting as defense mechanisms and may exhibit obvious paranoid trends due to the projection of "primitive, sadistic superego nuclei" (Kernberg, 1970, p. 807) and the excessive use of projective identification, a mechanism whereby they "externalize the all-bad, aggressive self and object images" (Kernberg, 1967, p. 669). Although such persons have differentiated self and object images, they remain fixated at a level of development characterized by a pathological condensation of genital and pregenital strivings, with a predominance of pregenital or oral aggression (Kernberg, 1970, p. 803). They have failed to achieve object constancy and are thus unable to integrate libidinally and aggressively invested internalized self and object representations, resulting in an impaired capacity for empathy and the maintenance of part-object relationships "of either a need-gratifying or a threatening nature" (Kernberg, 1970, p. 809). Individuals with lower level personality structure lack anxiety tolerance and manifest a nonspecific, generalized deficiency in impulse control. Their impulsivity is unpredictable and erratic, "a simple reflection of an increase of anxiety or of any particular drive derivative" (Kernberg, 1967, p. 661).

Kernberg (1967) cites a history of extreme frustrations and intense aggression during early childhood as a frequent finding in persons with pathological character organization.
With Mahler, he stresses that the main problem in these individuals is "their failure to achieve a satisfactory loving relation with an object that can be trusted and relied upon in spite of the patient's aggression toward it [and] in spite of the shortcomings and frustrations stemming from that object" (Kernberg, 1977, p. 301). Elsewhere he notes that the etiology of low level personality organization (specifically, narcissistic psychopathology) may be associated with an "inborn intensity of aggressive drive" and a "chronically cold" mother figure (Kernberg, 1974, p. 221). Although Kernberg is less explicit than Winnicott (and others, e.g., Kohut, 1977) about the significance of environmental factors, he acknowledges the role of actual frustration, deprivation, and parental failures (Kernberg, 1984).

Data from a series of studies directed by Arthur Green may be pertinent to this consideration. As if in counterpoint to Lewis and her associates, who first identified seriously delinquent juveniles and then uncovered their histories of early trauma, Green and his colleagues (Green 1978a, 1978b, 1978c; Green, Sandgrund, Gaines, & Haberfeld, 1974, cited in Green, 1982) first identified victims of child abuse and then explored the psychological and behavioral sequelae of that trauma. Green (1982) summarized their findings, detailing serious deficits in the domains of ego functioning, object relations, and impulse control. These researchers found that children who had been
subjected to early and pervasive "parental rejection, assault, and deprivation" (Green, 1982, p. 253) exhibited an overall impairment in ego functioning, tended to be hyperactive and impulsive with minimal frustration tolerance, and preferred motor activity rather than verbalization as a means of expression. In particular, "the abused children's preoccupation with external danger and over-stimulated drive activity deprived them of the energy necessary for learning and mastery" (Green, 1982, p. 253).

Green and his associates found that the abused children evinced pathological object relations. They anticipated violence and rejection in interpersonal interactions and relied excessively on primitive defenses such as denial, projection, introjection, and splitting (Green, 1982). Within a therapeutic relationship, they initially idealized the therapist because of their intense object hunger, but they eventually projected their rage onto the therapist.

Impaired impulse control in the abused children was indicated by aggressive and destructive behavior (bullying, fighting, and actual assaultive behavior) at home and in school. Many of the older children and adolescents were involved in antisocial and delinquent behavior. In Green's psychodynamic formulation, "the abused children formed a basic identification with their violent parents that facilitated the use of 'identification with the aggressor' as
Theoretical Controversies and Empirical Evidence

Whereas Kernberg subsumes antisocial character under his low level of personality organization (also termed infantile, borderline, or narcissistic), Masterson (1978) argues that it is necessary to distinguish borderline and narcissistic personality disorders from each other and from psychopathic (antisocial) personality. He suggests that the diagnosis of psychopathic personality be made on the basis of "antisocial behavior, usually of long duration, without any separation experiences involved" (Masterson, 1978, p. 47). Masterson feels that the psychopath's capacity for object relations is practically nonexistent, an outcome which he traces to detachment in response to maternal deprivation. He is pessimistic about the possibility of rehabilitating persons with antisocial personality disorder.

As Masterson (1981) admits, however, the term psychopathic personality (i.e., antisocial personality disorder) "contains many subcategories of disorder which may vary a good deal in both clinical style and psychodynamics" (p. 45). Empirical studies have not succeeded in clarifying the differences, if any, among borderline, narcissistic, and antisocial psychopathology. McManus, Alessi, Grapentine, and Brickman (1984), for example, investigated 71 incarcerated seriously delinquent juveniles (31 female, 40 male), 37% of
whom qualified for a principal diagnosis of borderline personality disorder (BPD). In addition, these researchers found that severity of delinquency and adult antisocial outcome were associated with borderline personality, and subjects with BPD were significantly more likely to receive a secondary diagnosis of aggressive conduct disorder and be adjudicated for violent felonies (McManus et al., 1978). MacVicar (1978) emphasized that many nonpsychotic assaultive patients fall within the range of the borderline character.

Gacono (1990) tested Kernberg's (1970) assertion that patients with antisocial personality are organized at a borderline level of functioning. He assessed the object relations, defensive operations, and level of narcissism in 33 male felons who met the DSM-III-R criteria for antisocial personality disorder. Gacono (1990) reported that level of narcissism or proportion of defenses did not differ between severe psychopaths (i.e., those who scored 30 or more on Hare's (1980) 40-point Psychopathy Checklist [PCL]) and moderate psychopaths (those with PCL scores below 30). He concluded that adult felons manifested pathological narcissism as one component of psychopathy and exhibited degrees of borderline personality organization. Severe psychopaths were judged to be more borderline in their functioning than moderate psychopaths, as indicated by significantly more borderline object relations scores on Kwawer's (1980) object relations categories for the Rorschach
Inkblot Test (Rorschach, 1921/1942). Thus, Gacono's (1990) results supported Kernberg's (1970) contention concerning the prevalence of borderline personality organization and narcissism in individuals with antisocial personality.

The Rorschach Inkblot Test and Its Systematizers

Although the Rorschach Inkblot Test is the most widely used of any individual clinical diagnostic instrument (Allison, Blatt, & Zimet, 1968; Exner, 1974), Gacono's (1990) study is unique in using the Rorschach to assess object relations and primitive defenses in incarcerated psychopaths. Because the Rorschach is also one of the most controversial and widely criticized assessment tests, a brief review of the history and application of the technique is in order.

The Rorschach Inkblot Test is an individually administered psychodiagnostic instrument consisting of 10 cards with inkblots (6 achromatic and 4 with chromatic color), presented consecutively to a subject with the question "What might this be?" Following the initial presentation of the cards (the free association), the examiner conducts an inquiry during which the response given during the free association is read back, and the subject is asked to explain what features of the stimulus led to each particular response. The 10 cards in current use are the same cards selected for publication by Hermann Rorschach in his original monograph Psychodiagnosics in 1921. Although Rorschach originally intended the inkblots to be used "like a word
association test to stimulate access to the content of fantasy" (Allison et al., 1968, p. 136), when he published his method he emphasized "perception and apperception rather than imagination" (Rorschach, 1921/1942, p. 16).

In the first 50 years since Rorschach's introduction of the inkblots, there evolved at least five distinct approaches to Rorschach administration, scoring, and interpretation. The divergent systematizers were Bruno Klopfer (1937), Z. A. Piotrowski (1937, 1957), Samuel J. Beck (1950, 1952), Marguerite Hertz (1951), and Rapaport-Schafer (Rapaport, Gill, & Schafer, 1946; Schafer, 1954). From the outset, the test had been criticized as unscientific, cumbersome, time-consuming, and of doubtful validity (Allison et al., 1968, p. 138); lack of consensus regarding administration and interpretation made its usefulness even more questionable. In 1974, John E. Exner succeeded in retrieving the reputation of the technique when he published his Comprehensive System, an attempt to assimilate the most valuable features from each of the five major systems as well as other pertinent developments in the test (Exner, 1974). The Comprehensive System continues to undergo refinement (Exner, 1986, 1990).

A longstanding controversy concerns whether the Rorschach Inkblot Test is better understood as a perceptual procedure or a projective technique. Exner states that the Rorschach test represents a perceptual task requiring adaptation to external stimuli but is commonly identified as
a projective method "by reason of its unstructuredness and ambiguity, which, according to Frank's 'projective hypothesis' (1939), provide the circumstances under which the subject conveys . . . needs, interests, conflicts, and so on" (Exner, 1974, p. 221). The examiner offers no specific instructions to project, but, because the inkblots are sufficiently ambiguous, it is possible for "some of the stronger needs, sets, attitudes, and so on of the subject to become influential in translating the stimuli" (Exner, 1989, p. 527).

The process by which the inkblot card evokes a response which is a composite of perception and projection has been variously elaborated. Exner (1974), while assigning paramount importance to perception, nevertheless acknowledged that Rorschach data could represent projection "at its most exquisite level" (p. 222). Exner (1974) summarized Rapaport's (1946) understanding of the process:

He [Rapaport] suggests that it represents a complex "cogwheeling' process in which the external stimulus (the blot) becomes perceptually internalized, various attempts mainly based on memory and structural similarities are made to identify the stimulus, and ultimately some identification is generated which represents a composite of what the person actually sees, and what the person is oriented, by his own needs, to see at that given moment. (p. 221-222)
More recently Exner (1986) has elaborated a three-phase cognitive process (encoding and classifying the image, rank ordering and discarding potential responses, and final response selection) which minimizes the role of projection, although it otherwise closely parallels Rapaport’s (1946) formulation. Although the perception-projection issue remains unresolved, Allison et al. (1968) offered a balanced approach, suggesting that the Rorschach test is most useful when understood "within a theoretical framework which emphasizes the interrelationships among modes of cognition-perception and personality organization" (p. 139).

Despite the predominant perceptual component of the task, numerous empirical studies examining content confirm the value of the Rorschach as a projective stimulus. Three studies of Rorschach content are particularly relevant to the present study. First of all, whole human percepts have been reported to occur infrequently in the records of adult offenders (Walters, 1953) and juvenile delinquents (Callahan & Ornduff, 1992; Ray, 1963), presumably because their internal world reflects a reduced interest in or capacity for interpersonal relations. In addition, sex and blood responses occur with a relatively higher frequency in subjects apprehended for sexual and/or aggressive acts (Draguns, Haley, & Phillips, 1967).

Despite Exner’s (1974) conviction that attention to certain responses (e.g., those involving orality or
aggressiveness) was essential for appropriate interpretation, content had been a relatively neglected aspect of the test in recent years. In developing the Comprehensive System, Exner followed the lead of the five principal systematizers in expanding Rorschach's original list of six content scores for the sake of greater discrimination among responses. He asserted that content analysis can provide information about the needs, interests, interpersonal functioning, and possible preoccupations of the subject, but insisted that interpretation should be based on the overall configuration of content rather than on any specific content category (Exner, 1974).

Currently there appears to be a renewed interest in the content categories of the Rorschach, especially on the part of psychoanalytic researchers seeking to investigate object representations elicited in projective test data. Over the past 25 years, several systems designed to assess psychoanalytic dimensions of personality organization and the quality of object relations evidenced by Rorschach imagery have been published (Arnow & Cooper, 1984; Blatt, Brennis, Schimek, & Glick, 1976; Cooper & Arnow, 1986; Hatcher & Krohn, 1980; Lerner & Lerner, 1980; Lerner, Sugarman, & Barbour, 1985; Mayman, 1967; Pruitt & Spilka, 1964; Tuber, 1989; Urist, 1977). Many of these measurement systems focus on content dimensions of the Rorschach, although some favor a structural analysis assessing the subject's use of form
quality, i.e., the extent to which the subject makes appropriate or conventional use of the contours of the blot.

In a review of the various psychoanalytic scoring systems, Burke, Friedman, and Gorlitz (1988) specified the following limitations: (a) most of the systems rely exclusively on human content data, (b) most concentrate either on form or content instead of attempting an integrated analysis, and (c) the systems either employ a single scale (resulting in a global, diffuse assessment) or ignore the complex interaction between dimensions of a Rorschach percept (p. 196). As regards the assessment of antisocials, the usefulness of any system that focuses solely on human content is questionable, as offender populations produce significantly fewer human responses than do nonoffenders (Callahan & Ornduff, 1992; Ray, 1963; Walters, 1953). In addition, analysis of form may be relatively uninformative. For example, delinquent juveniles categorized by seriousness of charge (murder/attempted murder, aggravated assault, and felony property offenses) have been found to differ little with respect to structural variables on the Rorschach (Callahan & Ornduff, 1992).

The Psychoanalytic Rorschach Profile

The Psychoanalytic Rorschach Profile (PRP; Gorlitz, Burke, & Friedman, 1986), which comprises scales designed for both structural and content analysis, was developed "to build on the strengths of current scoring systems and to address
their limitations in a manner allowing for a more comprehensive analysis of psychoanalytic dimensions in Rorschach imagery" (p. 197). The 10 principal scales of the PRP are divided into three subgroups: impulse, ego structure, and object relations. These three areas comprise the perspectives which Freud believed were crucial for a metapsychological analysis (Gay, 1988). Because this system assesses aspects of intrapsychic functioning assumed by various theoretical orientations within psychoanalysis (i.e., drive theory, ego psychology, and object relations theory) to be relevant to an understanding of aggression, the PRP is considered potentially valuable in the assessment and study of violent juveniles.

As Burke et al. (1988) have reported the development of the PRP in some detail, only the essential features of the 10 hierarchically-ordered scales will be outlined here:

1. The four impulse scales (Oral Receptive, Oral Aggressive, Anal, and Phallic-Vaginal) measure "the extent to which drives are reflected in the nature of the object itself or in the description of the object, which may be infused with derivatives of psychosexual impulses, wishes, or desires" (Burke et al., 1988, p. 202). The rationale of these scales reflects Freud's (1915/1957) propositions concerning the vicissitudes of the drives, namely, that a drive or impulse may be (a) aim-inhibited or diverted from its full and direct instinctual expression, (b) displaced or
compromised via a new object-cathexis or drive derivative, and (c) disguised or sublimated into intellectual, humanitarian, cultural, or artistic pursuits. For example, aim-inhibited aggression may be discharged through physical activity; its derivatives may be gratified through verbal criticism; or the aggressive instinct may be sublimated and disguised by channeling it into a higher cultural goal, such as a concern for social justice.

The utilization of two oral impulse scales reflects Karl Abraham's (1927) subdivision of the oral stage of psychosexual development into stages of oral eroticism (sucking and eating) and oral sadism (biting and chewing). The oral receptive orientation is conveyed either by percepts related in an obvious way to ingestion (such as edible objects, food organs, consumers of food, the process of feeding, and food-related implements) or through oral imagery that reflects a derivative, aim-inhibited, or disguised impulse (such as texture and tactile responses or the incidental mention of the food organ).

The score for oral aggressive impulse is assigned to percepts which express oral aggression directly (such as images of tearing something apart with the teeth), to percepts which are capable of oral aggression or are traditionally associated with oral aggressive behavior (such as spiders or crabs), and to oral aggressive derivatives
which express the impulse in a sublimated fashion (such as references to gossip or sarcasm).

Anal impulse is identified by percepts which range from primitive, unneutralized expressions of the impulse (such as mention of the anus, anal products, or anal functions) to sublimated expressions, such as references to hoarding, collecting, or cleaning.

The phallic-vaginal impulse is conveyed by images such as genital organs or sexual acts, by object descriptions which are symbolically representative of phallic or vaginal forms (such as snakes or caves), and by derivative, aim-inhibited, or disguised expressions of the impulse, including references to strength, power, preening, or exhibitionism. Percepts which indicate a retreat from the expression of the phallic-vaginal impulse, such as references to weakness or impotence, are also scored on this scale.

The four impulse scales are collapsed into a composite scale (Total Impulse) which assesses the overall frequency and intensity of psychosexual imagery.

2. The three ego structure scales (Boundary, Stability, and Thought Disturbance) assess aspects of psychological functioning related to the differentiation between inner mental states and the demands of the external environment.

The Boundary scale ascertains the extent to which the subject perceives the object described in the response as effective in containing its contents. Lower scores are given
to percepts with undefined, damaged, or distorted boundaries (such as air, clouds, headless woman) while higher scores are reserved for percepts with rigid, distinct, or definite and flexible boundaries (such as a rocketship, shoes, an animal).

The Stability scale assesses the capacity of the percept to withstand threats to its physical or psychological integrity. The lowest levels of the scale are used to rate percepts described as disintegrated or dead; the highest level applies to objects described as enduring and solid.

The Thought Disturbance scale assesses the degree to which the subject's responses are infiltrated by primary process thinking, i.e., by primitive mental activity unregulated by reality orientation. Responses which are scored for thought disorganization range from mildly deviant verbalizations (such as redundancies and neologisms) to responses which evidence bizarre or illogical reasoning and loss of reality contact.

3. The three object relations scales (Animation, Differentiation of Boundaries, and Mutuality of Interaction) operationalize familiar psychodynamic concepts that have been applied to an understanding of interpersonal functioning but "do not . . . represent particular orientations or schools of thought within the object relations literature" (Burke et al., 1988).

The Animation scale rates two distinct but related aspects of the percept: (a) the degree of attributed
animation (with inanimate objects at the low end, whole human percepts at the high end) and (b) the occurrence of whole or part objects.

The Differentiation of Boundaries scale measures the degree of physical relationship between the boundary surfaces of at least two distinct objects in a percept, with four levels ranging from enveloped (such as a ship in a bottle) to separate (such as two alligators).

The Mutuality of Interaction scale assesses the quality of emotional and physical relatedness in interactions perceived between two (usually animate) objects. At the lowest level of this scale are interactions characterized by a marked imbalance (such as a man squashing a cockroach), while mutual or reciprocal interactions (such as two people dancing) are scored at the highest level.

In addition to the 10 main scales, the PRP includes six special scoring categories. The scales for Positive Valence and Negative Valence denote the presence of explicitly elaborated or culturally defined positive emotional attitudes (e.g., Santa Claus) or negative emotional attitudes (e.g., Dracula or a monster). The scales for Vitalized and Devitalized rate the presence of the growth process (such as a blooming flower) or the absence of vibrancy (such as percepts which are dead, weak, or sleeping). The Anthropomorphized scale rates percepts in which non-human objects have been invested with human attributes or functions
(such as a duck smoking a cigar). The Implied Other scale rates the occurrence of objects described as in relation to or dependent on an object not seen in the percept (e.g., "This is a bat flying straight at me").

In a pilot study using an earlier version of the PRP (Gorlitz et al., 1984), Burke et al. (1988) demonstrated the effectiveness of the PRP in discriminating borderline and schizophrenic patients in terms of drives, ego structure, and object relations. Anal impulse was scored too infrequently for inclusion in the analysis, but the two clinical groups were shown to differ significantly on the following five scales: Boundary, Stability, Differentiation of Boundaries, Phallic-Vaginal Impulse, and Thought Disturbance. As predicted, schizophrenic patients manifested more serious disturbance than did borderlines with respect to these psychological dimensions. Total Impulse score was also highly discriminating, with borderlines evidencing more overall impulse as predicted due to their propensity for drive-laden content (Sugarman, 1980).

**Borderline Symptomatology in Psychopathic Populations**

As previously discussed, Kernberg (1970) argued that antisocial behavior reflects a low level (borderline level) of personality organization. Although borderline personality organization is conceptualized as distinct from Borderline Personality Disorder (BPD), it has many descriptive features in common with this diagnostic category.
In the 1970s, when mental health professionals were attempting to define BPD, they examined traits which could distinguish so-called borderlines from other clinical groups. Gunderson and Singer (1975) noted that, while borderlines were generally able to maintain adequate reality testing, they were prone to illogical reasoning. Furthermore, lapses in reality testing in borderline patients were observed "in the context of self-object differentiation" (Gunderson & Singer, 1975, p. 7). Prevailing anger and a history of impulsive behavior were also widely reported as characteristic of borderlines. In a study aimed at confirming borderline personality as a distinct psychopathological condition, Gunderson and Kolb (1978) found that, compared to schizophrenics, patients with borderline personality organization evinced a greater degree of social aggressiveness. Compared to neurotics, the borderlines were more likely to manifest an antisocial behavior pattern, lower school or work achievement, and a history of brief, paranoid experiences. Gunderson and Kolb (1978) identified seven criteria which distinguished borderlines: low achievement, impulsivity, heightened affectivity (primarily anger), paranoid ideation, disturbed interpersonal relationships marked by devaluation and dependency, manipulative suicide, and compulsive socialization. These authors suggested that a "potentially more difficult control group would be made up of
patients with personality disorders not considered borderline" (Gunderson & Kolb, 1978, p. 795).

Antisocial personality disorder, if distinct from borderline personality (Masterson, 1981), might be an ideal comparison condition. McManus et al. (1984), however, discovered widespread borderline symptomatology in serious delinquents. Of 8 male murderers in their sample, 3 were given a primary diagnosis of BPD, as were 6 of their 11 male felonious assaulters. McManus et al. (1984) found that 3 of the 8 criteria for Borderline Personality Disorder established by the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; 1980) were found in more than 70% of serious delinquents who did not meet criteria for a diagnosis of BPD: impulsivity, intense anger, and disturbed interpersonal relationships. In a detailed analysis, McManus et al. (1984) determined that the diagnostic criteria which successfully discriminated BPD from non-BPD delinquents were intense anger, disturbed interpersonal relationships (especially oral dependency and devaluation), self-injury, and affective lability.

Dorr and Woodhall (1986) found that borderline features were also characteristic of psychopathic adults. These researchers conducted a comprehensive ego functions analysis on a group of 20 adult psychopathic inpatients and found severe deficits in several areas relevant to borderline functioning, including reality testing, regulation and
control of drives and affects, and object relations. Dorr and Woodhall (1986) admitted, however, that inferences drawn from their study were limited because they had focused only on psychiatrically hospitalized psychopaths, whose expected level of ego functioning would be quite low.

In an unrelated study, Gacono (1990) confirmed the presence of borderline symptomatology in non-hospitalized adult felony offenders. He found that serious psychopaths did not differ from less serious felony offenders in the use of splitting, projective identification, and devaluation, but were more likely to manifest the presence of borderline object relations on the Rorschach. Gacono (1990) concluded that the individual with BPD, whose ego stability is precarious, may produce blatant borderline phenomena in psychological testing, whereas such indicators may appear in a less obvious manner for the person with low level personality organization (e.g., narcissistic or antisocial character) who is better defended (Gacono, 1990, p. 597).

A logical next step would be to assess whether violent and nonviolent psychopaths, all of whom presumably evince a rather low level personality organization, can be reliably differentiated with respect to the prevalence and intensity of their psychopathological symptomatology. Although felonious antisocials may all have low level personality, those who commit violence against persons may represent a more psychologically-disturbed group. As Gacono (1990)
observed, a comprehensive, dynamic assessment of antisocial personality disordered individuals may be crucial in formulating answers to questions regarding the treatment and management of such persons within a forensic setting. In contrast to personality development in nonclinical groups, it is possible that the personality of individuals with character pathology is prematurely calcified (Callahan & Ornduff, 1992). Therefore, early identification of conduct-disordered juveniles who are at risk for aggressive acting-out is an important goal.

Purpose

The PRP appears to have considerable promise as a psychoanalytically informed method for obtaining a comprehensive assessment of personality organization. In the present study, its usefulness in discriminating violent and nonviolent juvenile offenders was investigated.

Psychoanalytic theoretical considerations regarding the quality of ego functioning, impulse control, and object relations which characterize persons with a low level of personality organization guided the hypotheses of this study. Individuals whose antisocial behavior eventuated in violent crimes against persons (aggravated assault) were hypothesized to have a lower level of personality organization than individuals whose acting-out behaviors were limited to felony property offenses.
Clinical impressions also informed the hypotheses of this study. Based on her experiences working with delinquent juveniles, the principal investigator was aware that youths accused of aggravated assault sometimes present as more psychologically disturbed and disorganized in clinical interview than do those who are charged with serious but nonviolent offenses. Youths who commit aggravated assault may have a propensity for spontaneous, uncontrolled, and primitive violence, such as severely battering or stabbing someone in a rage. These violent juveniles may be more borderline in their functioning than their nonviolent delinquent peers.

Finally, a Rorschach study of juvenile delinquents proved helpful in formulating hypotheses for this study. Callahan and Ornduff (1991) found that a subset of variables from Exner's Comprehensive System (Exner, 1974) did not discriminate violent juveniles (those charged with aggravated assault) and nonviolent juveniles (felony property offenders). One of two conclusions might be drawn from the Callahan and Ornduff (1991) study. The findings may support the idea that violent and nonviolent juveniles represent a fairly homogeneous group. Conversely, the finding of few differences may reflect the limited usefulness of the Exner scoring system for discriminating delinquents on the basis of type of offense.
It seemed worthwhile to pursue the question of whether violent juveniles differ psychologically from their nonviolent delinquent peers and whether the Rorschach Inkblot Test has any value in uncovering these possible differences. If differences in drive, ego, and object relations as assessed by the PRP were observed between offense groups, it might be possible to predict earlier and with greater accuracy which juveniles are at high risk for violent acting out so that treatment and/or other diversionary efforts might be initiated.

Research with psychiatrically disturbed children suggested that this goal was a reasonable one. In a Rorschach study of personality organization using an object relations scale (Urist, 1977) and a thought organization scale (Freidman, 1953), Tuber (1983) was successful in predicting later psychiatric adjustment (measured by rehospitalization) for male subjects who had formerly been patients at a children's residential treatment center. Unfortunately, Tuber (1983) did not specify the diagnoses given to his subjects; it would have been interesting to know whether any of these male children had been diagnosed as conduct disordered. Furthermore, 79% of the males in Tuber's study (1983) were white. As Lewis (1983) indicated, the same behavior that leads to hospitalization for white children may bring ethnic minority children into contact with the legal
authorities. The majority of the juveniles in the present study were ethnic minority, primarily African-American.

Results from the present study had the potential to provide useful information for identifying juveniles at risk for violence, as well as to help clarify theoretical assumptions regarding the internal psychological structure of severely acting-out delinquents as compared with their less dangerous delinquent peers.

Hypotheses

The PRP permits differentiation of groups to be manifested in one of three ways: (a) in consistent differences across scale levels, (b) in relative differences in the use of the lowest and highest scale levels, and (c) in significant differences in frequency of scale use (Burke et al., 1988). Subjects in this study were assigned to two groups: violent and nonviolent. Juveniles charged with aggravated assault comprised the violent group. Juveniles charged with felony property offenses without any record of a violent felony against persons comprised the nonviolent group.

Differences across scale levels. The personality organization of violent delinquents was hypothesized to be more pathological than that of nonviolent delinquents. Therefore, with respect to consistent differences across scale levels, the PRP was predicted to discriminate violent and nonviolent juveniles on the basis of ego structure and
object relations. Specifically, it was hypothesized that the violent juveniles would evince greater pathology in ego structure and object relations as reflected by lower scores on Boundary, Stability, Animation, Differentiation of Boundaries, and Mutuality of Interaction, and higher scores on Thought Disturbance.

Although all of the subjects in this study were presumed to be impulsive, differences in the quality of the expressed drive-laden content were expected between groups. In the pilot study which tested the ability of the PRP to differentiate diagnostic groups, Burke, Friedman, and Gorlitz (1988) reported that schizophrenic and borderline patients were discriminated by only one of the four impulse scales (Phallic-Vaginal). Therefore, the validity and utility of the impulse scales remained questionable. However, these authors (Burke, Friedman, & Gorlitz, 1988) reported that the Total Impulse scale, a composite scale derived from collapsing all four impulse scales into one 4-level scale, highly discriminated the two clinical groups. In light of this finding, analysis of impulse in this study was restricted to the Total Impulse scale. Violent juveniles, hypothesized to be prone to more blatant and spontaneous eruptions of impulse, were predicted to evince greater pathology on this measure than nonviolent juveniles, as indicated by lower scores.
Differences in frequency of scale use. It was predicted that nonviolent juveniles, who were presumed to have a greater capacity for interpersonal relationships and were known to perceive more cooperative movement (COP) on the Rorschach Inkblot Test, would score more frequently on the Mutuality of Interaction scale than would the violent juveniles.

Because of their hypothesized propensity for morbidly bizarre thinking and paranoid ideation, violent juveniles were predicted to score more frequently on Negative Valence and Implied Other than the nonviolent juveniles.
CHAPTER III

METHOD

Subjects

Archival data used in this study were collected from the files in the Psychological Services Division of the Dallas County Juvenile Department. The sample consisted of a total of 80 male juveniles between the ages of 12 and 17 years who had received psychological evaluations pursuant to a court order or to assist in disposition planning in connection with their referral to the Dallas County Juvenile Department (DCJD) on one of the following two categories of charges: (a) aggravated assault, or (b) felony property offenses. For each subject, a copy of a signed court order mandating psychological testing or an informed consent form for testing and research purposes signed by a parent or legal guardian was verified. Research code numbers were assigned in order to insure anonymity and protection of the subjects.

Materials

Psychoanalytic Rorschach Profile (PRP). This new comprehensive system for assessing personality functioning was used to score the Rorschach Inkblot Test (Rorschach, 1921/1942) protocols of the 80 subjects in this study. The PRP was originally developed by Gorlitz, Burke, and Friedman.
in 1984 to extend the capacities of previously published Rorschach measurement systems. The PRP integrates drive, ego, and object relations perspectives; combines content and structural analyses; and permits an integrated profile analysis. The PRP consists of 10 hierarchically-ordered scales, each of which represents a dimension of personality functioning, and two special scoring categories. In a pilot study comparing the Rorschach protocols of five borderline and five schizophrenic subjects (Burke, Freidman, & Gorlitz, 1988), the developers of the PRP reported an adequate level of interrater reliability for their system: the range of correlation coefficients was from .59 to .92, with 8 of the 10 scales having median coefficients above .75. The PRP was also judged to discriminate effectively between the two clinical groups. In this study, the most recent version of the PRP (Gorlitz, Burke, & Friedman, 1986), modified to incorporate Exner's (1986) recent revisions and weightings of categories of thought disturbance, was used.

Other measures. Eleven of the 80 subjects who comprised the final research sample (4 aggravated assault subjects and 7 felony property offenders) had received a Wechsler Intelligence Test for Children - Revised (WISC-R; Wechsler, 1974) as part of their psychological evaluations. The WISC-R is a well-standardized intelligence test with excellent reliability and good validity (Sattler, 1982). The WISC-R yields three separate IQs: a Verbal IQ, a Performance IQ, and
a Full Scale IQ. Average reliability coefficients for 11 age groups ranging from 6 and one-half years to 16 and one-half years are .96 for the Full Scale IQ, .94 for the Verbal IQ, and .90 for the Performance IQ. Test-retest reliability coefficients for the WISC-R are .95 for the Full Scale IQ, .93 for the Verbal IQ, and .90 for the Performance IQ. Concurrent validity is demonstrated by median correlations with a variety of ability and achievement tests which range from the upper .30s to the low .80s.

The intelligence of the remaining 69 subjects had been assessed with the Culture Fair Intelligence Test (Institute for Personality and Ability Testing, 1973). The Culture Fair Intelligence Test is a brief, non-verbal measure of intelligence designed to minimize the influence of verbal fluency, cultural climate, and educational level. As such, the Culture Fair Intelligence Test was an appropriate instrument for estimating the intelligence of subjects in the present study, the majority of whom were ethnic minority individuals from impoverished and culturally-deprived environments. The Culture Fair Intelligence Test yields an overall IQ score comparable to the Full Scale IQ of the Wechsler tests. The average split-half reliability coefficient reported for the Culture Fair Intelligence Test is .87. The average correlation of the Culture Fair Intelligence Test with the pure intelligence factor (g) is .85, and the concurrent validity of the test is demonstrated
by an average correlation of .77 with other tests of general intelligence, including the WAIS, the WISC, and the Stanford-Binet.

All 80 subjects had completed a Wide-Range Achievement Test - Revised (WRAT-R; Jastak & Wilkinson, 1984). The WRAT-R is an efficient, psychometrically-sound achievement test which consists of three subtests designed to measure the basic academic codes necessary for learning the fundamentals of reading, spelling, and arithmetic. The test was normed on a stratified national sampling and yields standard scores and grade ratings for each of the three subtest areas. The WRAT-R has good internal consistency, indicated by median sample reliability coefficients ranging from .93 to .99. The authors of the test report that the WRAT-R correlates in the high .60s, .70s, and .80s with other achievement and ability tests, such as the California Achievement Test and the Stanford Achievement Test.

Raters

Two advanced graduate students in clinical psychology served as raters for Rorschach responses using the PRP. Both raters received training and practice in the scoring of Rorschach protocols using the PRP. An acceptable level of interrater reliability was attained using published examples of Rorschach responses (Exner, 1985) before scoring of the actual protocols was undertaken. For the 10 primary scales of the PRP, Spearman rank-order correlation coefficients
ranged from .80 on the Mutuality of Interaction scale to .96 on the Boundary scale. On the nominal scales of the PRP, interrater agreement during the practice phase of the study ranged from 82% on Positive Valence to 100% on Vitalized. Raters were blind with respect to group classification of subjects.

Procedure

The 40 male subjects who comprised each of the two groups were selected on the basis of two categories of charge (aggravated assault and felony property offenses) by sequential examination of the files in the Psychological Services Division of the Dallas County Juvenile Department, beginning with the most recent testing cases. In cases in which a juvenile had been previously referred for a violent felony charge but was psychologically evaluated following referral for a less serious charge or a nonviolent offense, the subject was classified according to the most serious charge in the record.

Demographic data, scores on intelligence tests and academic achievement tests, personal information, family data, and scores on intelligence tests and academic achievement tests were recorded. Only subjects whose files contained full scale IQ scores on standardized intelligence tests and valid Rorschach Inkblot Test profiles were selected. Subjects were excluded if their files contained evidence of significantly subaverage intellectual functioning
(i.e., a measured intelligence quotient below 70 on an individually administered IQ test), chronic psychosis, significant organic impairment (including drug toxicity), or relevant physical limitations (e.g., visual, auditory, or speech difficulties). Incomplete data or indecipherable Rorschach protocols necessitated exclusion of a possible case from the study.

All Rorschach protocols were photocopied and responses were typed verbatim. Following a procedure devised by Burke et al. (1988) to reduce the potentially biasing effects of especially lengthy Rorschach protocols, only the first 2 and last 2 responses to each card from any record greater than 40 responses were included in the analysis. This study contained one such record.

Following independent ratings by two raters for responses on the first 11 protocols (246 responses, 15% of the total sample), the scores were reviewed and a consensus score for each response on each scale was determined for use in the final analysis. An acceptable level of interrater reliability (Spearman rank-order correlation coefficient = .80 or above) was obtained for each of the scoring scales on the basis of the first 11 protocols. Therefore, a single rater rated the remaining 68 protocols (1,691 responses).
CHAPTER IV

RESULTS

Demographics

The mean age of subjects in the study was 14.81 years ($SD = 1.21$), with a range from 12 to 17 years. Violent and nonviolent subjects did not differ significantly on age, $t(78) = 1.78, p < .08$. Violent subjects had a mean age of 14.98 years ($SD = 1.19$) and nonviolent subjects had a mean age of 14.50 years ($SD = 1.20$). These data are presented in Table A-1 (Appendix A).

African-American subjects comprised 56.9% of the entire sample of 80 male juvenile offenders. Hispanics made up 24.4% of the total, and Caucasians accounted for 15.1%. Others (Asians and persons of mixed ethnicity) comprised 3.5% of the entire sample. With respect to ethnicity and type of offense, 60% of the violent subjects in this study were African-American, 20% were Hispanic, 17.5% were Caucasian, and 2.5% were other ethnic minorities (Asian). Of the nonviolent subjects, 52.5% were African-American, 30% were Hispanic, 15% were Caucasian, and 2.5% were other ethnic minorities (mixed ethnicity). The two offense groups did not differ with respect to ethnicity, $X^2 (3, N = 80) = .68$, n.s. Data regarding ethnicity are presented in Table A-2 (Appendix A).
The mean intelligence quotient (IQ) for this sample of 80 male juveniles was 91.80 (SD = 11.10), with a range from 71 to 122. On the basis of intelligence test results, 7.5% of the subjects were placed in the High Average range of intellectual functioning (IQ = 110-119), 48.8% were placed in the Average range (IQ = 90-109), 33.8% in the Low Average range (IQ = 80-89), and 10% in the Borderline (IQ = 70-79) range. Violent subjects and nonviolent subjects did not differ significantly on measured intelligence, \( t(78) = -1.26, p < .21 \). Data regarding measured IQ for the entire sample and for the two offense groups are presented in Table A-3 (Appendix A). Data regarding ranges of intellectual functioning for the entire sample and the two offense groups are summarized in Table A-4 (Appendix A).

Although data regarding school adjustment were unavailable for many subjects, 56.3% of subjects whose records contained information about school history had been retained in school at least one year. Forty-six percent had been suspended or expelled at least once. Fifteen percent had dropped out of school or were not attending at the time of the evaluation. Of the 80 subjects in the entire sample, 62.5% were performing at below Grade 5 on at least one subject area of the WRAT-R.

Information in the files regarding age at first contact with the Dallas County Juvenile Department was available for 53 of the 80 subjects. The mean age at first contact with
the juvenile authorities was 13.98 years (SD = 1.60), with a range from 10 to 17 years. Violent subjects (M = 13.8 years, SD = 1.81) and nonviolent subjects (M = 14.05 years, SD = 1.4) did not differ significantly with respect to age at first contact, t(51) = .50, p < .62.

For the entire sample, the number of prior offenses averaged 2.56 (SD = 1.97) and ranged from 0 to 10. The two offense categories differed significantly with respect to number of prior charges, t(78) = -2.88, p < .005. Nonviolent subjects averaged more prior charges (M = 3.18, SD = 2.18) than violent subjects (M = 1.90, SD = 1.70). This difference probably reflects the fact that less serious offenders (felony property offenders) tend to accumulate an extensive delinquent history before being referred for psychological assessment to assist in disposition planning. In contrast, violent juveniles tend to be assessed early in their contact with the juvenile authorities. Data on prior offenses are presented in Table A-5 (Appendix A).

Twenty-nine of the 80 subjects (36.3%) were admitted or known gang members. Because data regarding gang involvement had not been systematically collected, however, it is likely that participation in gangs by these juvenile offenders was even more extensive than this figure suggests.

In 71 out of 80 cases, the topic of substance use had been addressed in the clinical interview, with 73.8% of the subjects acknowledging some experience with alcohol and/or
other substances. In general, alcohol (primarily beer and wine coolers) was the drug of choice. However, 48% of aggravated assault subjects and 46.8% of felony property offenders acknowledged at least occasional use of marijuana in addition to alcohol.

Data regarding a history of emotional problems for subjects in this study were incomplete. However, 25% of the violent subjects had been hospitalized for psychiatric problems (including Major Depression, suicide attempt, and "emotional disturbance") or had received psychological counseling or medication. Caucasians in the violent group were more likely to have come to the attention of mental health professionals than were ethnic minority offenders. According to the records, 85.7% of the Caucasians in the violent group had received some type of treatment for an emotional or behavioral disorder, compared with only 16.6% of African-Americans. Twenty percent of nonviolent subjects had either been hospitalized or had received counseling or psychopharmacological treatment for a behavior problem, usually hyperactivity/Attention Deficit Disorder.

The issue of alleged abuse or neglect had not been routinely addressed in the clinical interview. However, 25% of the violent subjects and 27.5% of the nonviolent subjects reported physical or sexual abuse or neglect. These figures may seriously underestimate the extent of abuse that these subjects had experienced.
Data Analyses

Reliability. On the first 11 protocols (246 responses), the two raters achieved a high degree of interrater reliability for the 10 primary scales of the Psychoanalytic Rorschach Profile (PRP; Gorlitz, Burke, & Friedman, 1986). Spearman rank-order correlation coefficients ranged from .80 on Mutuality of Interaction to .94 on Animation. The two raters also attained acceptable levels of agreement on the six nominal scales of the PRP (Vitalized, Devitalized, Anthropomorphized, Positive Valence, Negative Valence, and Implied Other), with percentages of agreement ranging from 93% on Negative Valence to 100% on Vitalized. Therefore, a single rater scored the remaining 69 protocols (1,691 responses). The interrater reliability coefficients of the 10 primary scales of the PRP are presented in Table A-6 (Appendix A). Data regarding interrater agreement for the six nominal scales of the PRP are presented in Table A-7 (Appendix A).

Tests of differences across scale levels. In order to test the hypothesis that the personality organization of violent delinquents is more pathological than that of nonviolent delinquents with respect to ego structure and object relations, Mann-Whitney U tests were performed on the following six scales of the PRP: Boundary, Stability, Thought Disturbance, Animation, Differentiation of Boundaries, and Mutuality of Interaction. Results of these analyses were
significant, with violent subjects, as predicted, scoring in the more pathological direction on all scales. Violent subjects obtained lower (i.e., more pathological) scores than nonviolent subjects on the Boundary, Stability, Animation, Differentiation of Boundaries, and Mutuality of Interaction scales of the PRP. Violent subjects obtained higher (i.e., more pathological) scores than felony property offenders on the Thought Disturbance scale. The Mann-Whitney U values and significance levels are as follows: Boundary scale, U = 60129, N₁ = 821, N₂ = 870, p < .001; Stability scale, U = 29960.5, N₁ = 821, N₂ = 870, p < .001; Thought Disturbance scale, U = 2033.5, N₁ = 94, N₂ = 60, p < .01; Animation scale, U = 45841, N₁ = 821, N₂ = 870, p < .001; Differentiation of Boundaries scale, U = -4319, N₁ = 265, N₂ = 223, p < .001; Mutuality of Interaction scale, U = 5279.5, N₁ = 114, N₂ = 117, p < .01.

In order to test the hypothesis that violent delinquents evince greater pathology than nonviolent delinquents with regard to drives, a Mann-Whitney U test was performed on the Total Impulse scale. The Total Impulse scale assesses the intensity of the expressed impulse. Results showed that the Total Impulse scale discriminated violent subjects from nonviolent subjects, with violent obtaining lower (i.e., more pathological) scores, as predicted. For the Total Impulse scale, U = 11778.5, N₁ = 461, N₂ = 462, p < .001.
In order to test the ability of an impulse scale to differentiate the two offense groups at a more detailed level of analysis, a new 16-level scale was designed to take into account both the psychosexual level of the impulse (ranging from Oral Receptive Impulse at the low end to Phallic-Vaginal Impulse at the high end) and the quality or intensity of the expressed impulse (ranging from primitive and unneutralized at the low end to sublimated or disguised at the high end). This scale, designated Overall Impulse, transformed PRP impulse scale ratings as follows:

- Oral Receptive 1 = 1
- Oral Aggressive 1 = 2
- Anal Impulse 1 = 3
- Phallic-Vaginal 1 = 4
- Oral Receptive 2 = 5
- Oral Aggressive 2 = 6
- Anal Impulse 2 = 7
- Phallic-Vaginal 2 = 8
- Oral Receptive 3 = 9
- Oral Aggressive 3 = 10
- Anal Impulse 3 = 11
- Phallic-Vaginal 3 = 12
- Oral Receptive 4 = 13
- Oral Aggressive 4 = 14
- Anal Impulse 4 = 15
- Phallic-Vaginal 4 = 16
Results from a Mann-Whitney U test showed that this new scale successfully discriminated violent subjects from nonviolent subjects, with violent subjects obtaining lower (i.e., more pathological) scores than nonviolent subjects. For the Overall Impulse scale, $U = 10022$, $N_1 = 461$, $N_2 = 462$, $p < .001$. Results from the Mann-Whitney U tests are presented in Table A-8 (Appendix A).

Chi-square analyses on frequency of scale use.

Predictions regarding differential frequency of use of the Mutuality of Interaction scale, the Negative Valence scale, and the Implied Other scale were not confirmed. Results from chi-square tests of independence indicated that violent subjects and nonviolent subjects did not differ in frequency of use of the Mutuality of Interaction scale, $X^2 (1, N = 80) = .04$, n.s. The two offense groups did not differ in frequency of use of the Negative Valence scale, $X^2 (1, N = 80) = 1.68$, n.s., nor in frequency of use of the Implied Other scale, $X^2 (1, N = 80) = .36$, n.s. The dichotomous Negative Valence and Implied Other scales in the current version of the PRP may be unable to capture differences in morbid and paranoid thinking. Further refinement of these scales is advisable. Results of these chi-square analyses are presented in Table A-9 (Appendix A).

Additional analyses. Chi-square analyses were performed to explore possible differences in frequency of use of the lowest and highest scale levels by the two offense groups.
For the purpose of these analyses, the Boundary, Thought Disturbance, Animation, and Mutuality of Interaction scales were transformed into 4-level versions. For the Boundary, Animation, and Mutuality of Interaction scales, the procedure for performing this transformation was identical with that employed by Burke, Freidman, and Gorlitz (1988). Because the most recent version of the Thought Disturbance scale (Gorlitz, Burke, & Friedman, 1986) was used in this study, a new procedure for transforming the 6-level version of the Thought Disturbance scale into lower and higher scale levels was devised: scores of 1 to 3 on Thought Disturbance constituted the low level on this scale and scores of 4 to 6 constituted the high level.

Results from chi-square tests of independence showed that violent subjects accumulated more scores than did nonviolent subjects at both the lowest and highest levels of the Thought Disturbance scale. Violent subjects accumulated significantly more scores in the lower range of Thought Disturbance (levels 1, 2, and 3), $X^2 (1, N = 80) = 4.23, p < .05$. Scores in this range reflect deviant verbalizations or mild aberrations in logical thinking. In addition, violent subjects differed from nonviolent subjects in receiving more numerous scores in the higher range (levels 4, 5, 6) on the Thought Disturbance scale, $X^2 (1, N = 80) = 4.17, p < .05$. Scores at these levels reflect more disorganized thinking and autistic logic. The two offense groups did not differ in
frequency of use of lowest and highest levels on the remaining PRP scales. Comparisons between the two offense groups on frequency of use of lowest and highest levels for the 10 primary scales and the Total Impulse scale of the PRP are presented in Table A-10 (Appendix A).

Post-Hoc Analyses

Detailed examination of PRP scales made it possible to pinpoint in many cases where the precise differences between the two groups lay. These profile analyses focused on differential use of specific scale levels by the two groups as well as on differences in performance by the individual subjects on the assessed dimensions. Profile analyses were particularly useful with regard to ego structure and object relations.

Ego structure. Violent subjects were found to be more pathological with regard to ego structure as assessed by the following three primary scales of the PRP: Boundary, Stability, and Thought Disturbance. Although both offense groups produced the majority of scores on the Boundary scale at the highest level (9 = definite and flexible boundaries), the groups differed significantly on the overall proportion of level 9 scores. The proportion of level 9 scores for violent subjects was lower than that of nonviolent subjects. Level 9 accounted for 68.4% of the Boundary scores for violent subjects and 77.1% of the scores for nonviolent subjects, \( X^2 (1, N = 80) = 16.10, p < .0005 \).
Differences between offense groups on the Boundary scale were also related to a greater propensity by violent subjects to accumulate scores at the low scale levels. For example, 6.5% of the responses by violent subjects were scored at levels 1 (undefined) and 2 (fluid and uncontained), compared with 3.1% of the responses by nonviolent subjects, $X^2 (1, N = 80) = 12.10, p < .001$. Seventy percent of the violent subjects produced at least one level-1 or level-2 response on this scale, compared to only 45% of nonviolent subjects. In addition, the offense groups differed significantly with regard to proportion of low level scores (levels 1 and 2), with violent subjects attaining a mean percentage of level-1 and level-2 responses that was double that of nonviolent subjects, $t(78) = 2.63, p < .01$.

Although the Stability scale successfully discriminated the two offense groups, all subjects maintained a generally high level of ego stability, a finding which Burke et al. (1988) reported for the schizophrenics as well as the borderlines in their study. Both violent and nonviolent offenders produced a preponderance of scores at the highest level of this scale (4 = enduring and solid). Level-4 scores accounted for 90.8% of scores on the Stability scale for violent offenders, and 91% of the scores for nonviolent offenders. A similar pattern was observed when the records of individual subjects were examined. For individual violent subjects, the mean percentage of level-4 scores on the
Stability scale was 90%. For individual nonviolent subjects, the mean percentage of level-4 scores on the Stability scale was 91%.

Marked differences with regard to the use of low (i.e., more pathological) levels on this scale were not discerned. Thus, in contrast to their performance on the Boundary scale, violent subjects did not manifest an obvious retreat to more pathological levels on the Stability scale. Instead, inspection of the data showed that the ability of this scale to differentiate violent and nonviolent subjects was associated with relatively minor differences at the high end of the scale. These results suggest that, despite its ability to differentiate a large sample of violent and nonviolent subjects, the Stability scale of the PRP may have little practical utility in identifying individuals who are at risk for violent behavior.

Analysis of use of the Thought Disturbance scale showed that the responses of both violent and nonviolent subjects were ordinarily free from cognitive slippage or pathological thinking. Evidence of thought disturbance was present in 11.5% of responses by violent subjects and 7.1% of responses by nonviolent subjects. Furthermore, when indications of thought disturbance occurred, they tended to be relatively mild. For both groups, the most frequent rating on the Thought Disturbance scale was for incongruous combination (level 2). Only one subject in the entire sample, a violent
offender, obtained a score for the highest level of thought disturbance (6 = contamination). These results indicate that the juvenile delinquents in this sample, including the violent delinquents, were relatively unimpaired by blatant psychotic process.

Nevertheless, the ability of the Thought Disturbance scale to discriminate the two groups was related to use of the higher, more pathological scale levels by violent subjects. When scorable responses for thought disturbance were produced, nonviolent subjects were more likely than violent subjects to attain scores at the lowest end of the scale. Fifteen percent of the scored responses by nonviolent subjects were level 1 (deviant verbalization), compared to 3.1% of the scored responses for violent subjects, $X^2 (1, N = 80) = 7.01, p < .01$. In addition, violent subjects were more likely than their nonviolent peers to attain scores at the higher end of this scale. Over 21% of scored responses for violent offenders were level 4, 5, or 6, compared to 15% of scored responses for nonviolent subjects. Moreover, 37.5% of violent subjects produced at least one high-level response (levels 4, 5, or 6), compared to only 17.5% of nonviolent subjects.

Object relations. Post-hoc analyses revealed interesting data regarding differential use of the three object relations scales (Animation, Differentiation of Boundaries, and Mutuality of Interaction) by violent and
nonviolent juvenile offenders. In a pilot study testing the utility of the PRP, Burke et al. (1988) found that the Animation scale failed to differentiate a small sample of borderline and schizophrenic subjects. These authors noted, however, that profile analysis suggested some intriguing areas for future investigation. For example, "the schizophrenic group demonstrated a tendency toward relating more to the inanimate world . . . than did the borderline subjects" (Burke et al., 1988, p. 209). In the present study, the Animation scale not only successfully discriminated the two offense groups, but also furnished suggestive information about interpersonal functioning.

Both violent and nonviolent juvenile felons used a wide range of Animation scale levels. Furthermore, the majority of subjects in each group produced at least one whole human response, the highest rated response for this scale. In addition, the two groups achieved similar overall proportions of whole human percepts. Violent subjects produced 9.8% whole humans and nonviolent subjects produced 10.2% whole humans. The four highest scale levels (11 = quasi-human detail, 12 = human detail, 13 = quasi-human, and 14 = human) accounted for 21.4% of responses by violent subjects and 21.6% of responses by nonviolent subjects. These findings indicate that differences between groups did not involve use of the higher levels of the Animation scale.
Instead, the ability of the Animation scale to differentiate the groups was related to a tendency for violent subjects to produce more percepts at the low end of the scale, specifically inanimate percepts (levels 1 and 2). Although the difference was not statistically significant, 95% of violent subjects reported at least one inanimate percept, compared with 82.5% of nonviolent subjects. In addition, almost half of violent subjects (47.5%) produced records containing at least 20% of inanimate responses, compared to only 22.5% of nonviolent. When violent and nonviolent offenders were compared with respect to percentage of inanimate percepts, proportions of inanimate responses were found to be significantly higher for violent subjects, \( t(78) = 2.58, p < .01 \). As suggested by Burke et al. (1988), the propensity to relate more to the inanimate world may serve as a defense "against the intense affect stimulated by objects" (p. 209).

The possibility that the violent subjects avoided human content as a defense against affect was explored by analyzing the proportion of whole human responses which were associated with level-2 ratings for Negative Valence in the two groups. A level-2 rating for Negative Valence is scored when an object, through an attitude or behavior, (a) demonstrates a wish to harm others, (b) evinces hostility or ill will, or (c) poses a current threat with or without conscious intent (Gorlitz et al., 1986). The difference between the two
groups was not statistically significant, $X^2 (1, N = 80) = .18, \text{n.s.}$ However, there was a slight trend for violent subjects to associate malevolence with whole human percepts: 19.7% of whole human responses by violent subjects were scored for level-2 Negative Valence, compared to 13.5% for nonviolent subjects.

The effectiveness of the Differentiation of Boundaries scale to discriminate violent and nonviolent juvenile offenders involved a tendency for violent offenders to retreat to more primitive functioning, rather than their wholesale failure to depict objects with discrete boundaries. For both groups, the modal score on this scale was the highest rating (4 = separate). However, violent subjects evidenced a greater tendency to produce percepts that received the lowest rating on this scale (1 = enveloped). Twenty percent of violent subjects obtained at least one level-1 score on the Differentiation scale, compared to only 5% of nonviolent subjects. This difference, while not statistically significant, indicated a trend for violent subjects to produce more of the lowest ratings than did nonviolent subjects, $X^2 (1, N = 80) = 3.60$.

The two offense groups were also distinguished by differential use of the lowest scales on the Mutuality of Interaction scale, rather than by striking differences in use of the higher scales. For example, 17.5% of violent subjects produced at least one of the lowest ratings on this scale.
(1 = powerful imbalance), compared to only 7.5% of the nonviolent subjects. The overall proportion of level-1 ratings for the violent group was 7.9%, compared to 2.6% for the nonviolent group. Although not statistically significant, these differences were in the expected direction.

Nevertheless, some differences in the highest scale level for the Mutuality of Interaction scale were observed. Although more than half of the subjects in each group produced at least one response at the highest level (5), signifying a relationship that is mutual or reciprocal, a level-5 rating (reciprocal) was the modal score (51.2%) for nonviolent offenders, while the violent offenders produced a bimodal distribution (37.7% of level 3 = ambiguous interaction, 37.7% of level 5 = reciprocal). Nonviolent subjects produced 60 level-5 scores on the Mutuality scale, compared to 43 for violent subjects. Although the difference between groups on frequency of level-5 Mutuality scores was in the expected direction, chi-square analysis showed that the difference was not statistically significant, $X^2 (1, N = 80) = 2.80$. 
CHAPTER V

DISCUSSION

The Psychoanalytic Rorschach Profile (PRP; Gorlitz, Burke, & Friedman, 1986) was shown to be effective in discriminating violent and nonviolent delinquent offenders. As predicted, violent juvenile offenders (male youths charged with aggravated assault) were found to be more pathological than their nonviolent delinquent peers (male youths charged with property felonies) with regard to ego structure, object relations, and impulse. In general, profile analyses of PRP scales proved valuable in determining where the precise differences in performances between the two groups lay. For the sake of clarity, implications of the findings for the three domains assessed by the PRP will be addressed sequentially. It is important to recognize, however, that ego functioning, object relations, and drives are interconnected and cannot be rigidly compartmentalized.

With regard to ego structure, violent juvenile offenders in this sample typically demonstrated a capacity to maintain adequate ego boundaries, a high degree of ego stability, and freedom from formal thought disorder. Nevertheless, the violent offenders revealed more significant deviations in all three areas of ego functioning assessed by the PRP than did
their nonviolent delinquent peers. In particular, violent offenders evinced a relatively impaired sense of self as differentiated and integrated (Boundary scale), as well as subtle disturbance in reality testing (Thought Disturbance scale).

Under normal circumstances, even violent youths may manifest a sufficient sense of bodily integrity, a relatively stable sense of self, and adequate reality contact for daily living. It would be a mistake, however, to assume that in violent offenders these aspects of personality functioning operate efficiently and well. In fact, as assessed by the PRP, the ego structure of the violent juvenile offenders appears more precarious than that of nonviolent offenders. With regard to ego functioning, what may distinguish violent from nonviolent juveniles may be a specific vulnerability to regression when influenced by severe intrapsychic stress (Burke et al., 1988).

These hypotheses regarding superficially intact but "weak" ego structure are consistent with Kernberg's (1967) theory of character pathology and Schaer's (1988) clinical observations regarding the "relative resiliency" (p. 10) of children who live in chaotic, hostile environments. Kernberg (1967), for example, pointed out that persons with low-level personality organization seldom evince formal thought disorder in mental-status exams, yet often reveal primary-process thinking in response to the stress of
unstructured, projective tests, such as the Rorschach. Schaer (1988) reports that, as a general rule, traumatized inner-city children are not characterized by utterly inoperative ego functioning (p. 16). Instead, he recognizes in these children "highly developed ego functions . . . [coexisting] with severe deficits" (Schaer, 1988, p. 10).

A "porous ego" (Schaer, 1988, p. 16), an unstable self-representation, and a propensity for primary-process thinking have important consequences for the quality of object relations manifested by violent juvenile offenders. Ego defects and pathological object relations exert a reciprocal effect on one another. Ego functioning and self-representations not only influence the depth of an individual's actual interactions with others (Kernberg, 1984), but shifts in the direction of primary-process functioning may arise from the reactivation of pathological, early internalized object relations (Kernberg, 1967, p. 662).

As shown, the object relations of violent juvenile offenders were more pathological than those of nonviolent offenders in all three areas assessed by the PRP. These findings support the hypothesis of more deviant object relations in antisocial persons who commit aggressive acts against persons rather than property. With their hypothesized ego weakness, violent juveniles who become dominated by intrapsychic stress may be more likely than nonviolent offenders to lapse into primitive interactional
modes (i.e., borderline functioning) with respect to object relations. Further analysis of PRP object relations scales suggested a working hypothesis that violent subjects have a cognitive bias to perceive hostility in human interactions.

This interpretation is consistent with Kernberg's conceptualization of borderline character pathology. According to Kernberg (1967, 1970, 1976), strong projective trends (paranoid traits) and a bias toward responding to human relationships as threatening are characteristic features of low-level personality organization. As indicated by their performance on the Thought Disturbance scale, violent offenders in this sample evinced subtle deficiencies in reality testing. Distorted thinking, especially if it involves hypervigilance or extreme wariness in human relations, could exacerbate the tendency of violent offenders to react aggressively to imagined threats or affronts. Of interest is a study (Zanarini, Gunderson, & Frankenburg, 1990) reporting the presence of nondelusional paranoia (undue suspiciousness, ideas of reference, and other paranoid ideation) in patients with Borderline Personality Disorder, a disorder which has been found to be prevalent among violent adolescent felons (e.g., McManus, Alessi, Grapentine, & Brickman, 1984).

Pathological object relations on the Rorschach Inkblot Test have also been reported for incarcerated adult felons (Gacono, 1990). Using Kwawer's (1980) criteria for
borderline phenomena, Gacono (1990) found that severe psychopaths tended to be more borderline in their functioning than did moderate psychopaths. His conclusions were based on the fact that severe psychopaths had a significantly greater number of total borderline object relations scores on the Rorschach Inkblot Test than did the moderate psychopaths. In addition, Gacono (1990) pointed out that every subject in the severe psychopathy group (n = 14) produced at least one borderline object relations response, while 5 of the 19 subjects in the moderate psychopathy group had no borderline object relations responses at all. Although the PRP object relations scales are not fully equivalent to Kwawer's (1980) criteria, low-level scores (1 = enveloped, 2 = interpenetrating or partially obscured) on the Differentiation of Boundaries scale of the PRP appears similar to Kwawer's (1980) system for assessing object relations disturbance. Kwawer's (1980) borderline categories include engulfment, symbiotic merging, violent symbiosis, and womb imagery.

Lack of an individuated self-concept (Boundary scale), instability of self-representation (Stability scale), distorted thinking (Thought Disturbance scale), limited interest in interpersonal relationships (Animation scale), problems in differentiating self and others (Differentiation scale), and defects in the capacity for empathy (Mutuality scale), are reflected in the inability of violent juveniles to sublimate the expression of drives. Impulse scale
analyses revealed that violent juvenile offenders were prone to more primitive, blatant expressions of impulse than were nonviolent juvenile offenders and, in particular, relied more extensively on indirect expression of the Oral Receptive Impulse. These results support Kernberg's (1970) hypotheses regarding the expression of infantile, sadistically infiltrated drive derivatives in persons with antisocial personality and also support the idea that violent antisocials are even more pathological with respect to drives than are their nonviolent peers. The PRP impulse scales may prove valuable in assessing juveniles at risk for violent behavior, especially in view of the fact that current Rorschach measures of expressed hostility (such as scores for aggressive ideation) have not been shown to differentiate violent and nonviolent offenders (Callahan & Ornduff, 1991).

In this study the violent delinquent has been shown to lack an integrated ego, stable object relationships, and well-developed sublimatory channels. Such an individual is unable to withstand frustration, becomes easily overwhelmed, and discharges impulse in a immediate fashion. Determining the factors that underlie this behavioral pathology is of crucial importance. Regrettably, background information for many subjects in this study was unavailable, making definitive conclusions impossible. However, there is sufficient evidence to suggest that in many cases the
emotional development of these seriously delinquent adolescents was impaired by traumatic experience.

At least 25% of subjects in the entire sample had experienced physical abuse, sexual abuse, or neglect, sometimes necessitating removal from the home. As noted, this figure may seriously underestimate the extent of the mistreatment which these children had experienced. In addition to the fact that this issue had not been addressed in the majority of the clinical interviews, there is reason to believe that subjects may have minimized their abuse experiences, even when directly questioned. Many children fail to acknowledge abuse because they misinterpret abuse as deserved or reasonable (Amsterdam, Brill, Weisberg Bell, & Edwards, 1979; Schaer, 1988), suppress awareness (Herzberger & Tennen, 1983; Sullivan, 1956), or wish to present a "macho" facade (Della Femina, Yeager, & Lewis, 1990).

In addition, many subjects in this study reported witnessing abuse within their families, including the sexual abuse of siblings by parents or stepparents. Although information regarding familial sociopathy had not been systematically gathered, numerous subjects had family members with criminal histories. In many cases, family members had died violent deaths, either by suicide or homicide, sometimes at the hands of another relative. Some of these adolescents had themselves been injured by gunshot wounds. Several others had lost friends and family members to gang violence.
Disrupted family situations characterized the home lives of these juveniles, many of whom had been born to poorly-educated teenage mothers who may have been emotionally unprepared to care for their infants. Relatively few youths were living with both biological parents at the time of the evaluation, and many subjects reported that their biological fathers were unknown. Single mothers or mothers involved in successive common law marriages did most of the parenting of these children, although in many cases aunts and grandmothers had assumed responsibility. Serious substance abuse in family members was frequently reported. Although data regarding socioeconomic status were unavailable, many of these juveniles came from severely economically-deprived households or were living in impoverished, crime-ridden neighborhoods. Family members who were employed tended to work in menial, low-paying jobs or at unskilled labor.

In short, many of these juveniles had been forced to adapt to living conditions so stressful as to be termed traumatic. Clinical judgments made by Schaer (1988, 1991) and his colleagues with regard to the chronically traumatized children of poverty appear to be relevant to an understanding of seriously delinquent adolescents. Schaer (1988) has outlined consequences to psychological development which he believes are related to "the generalized effects of a chaotic hostile environment . . . conditions of sexual abuse, deprivation, overstimulation, understimulation, physical
abuse, parental loss or abandonment, shifting caretakers, frequent neighborhood changes, psychiatrically disturbed or sociopathic-criminal behavior of significant others, and a realistically dangerous environment" (p. 9). Such chronic stressful conditions were probably experienced by many of the subjects in this study—both violent and nonviolent. Racism possibly compounded the stress of daily life for many of these subjects as the majority were ethnic minority members.

Children exposed to multiple stressors are at greater risk for psychological difficulties (Hughes, Parkinson, & Vargo, 1989; Rutter, 1978, 1980). Schaer (1991) describes a configuration of "precocious ego development" (p. 2) which characterizes many chronically-abused inner-city children. Citing Winnicott's conceptualization of trauma as an environmental impingement that occurs in the absence of maternal protection and prior to the individual's development of coping mechanisms, Schaer (1991) hypothesizes that trauma compels the child to develop certain psycho-physiological accommodations or survival skills, the most basic of which are a precocious reactivity to the environment and motoric discharge. Reliance on action becomes an entrenched pattern:

The combination of sensory-perceptual and motor skill overreliance progressively shapes the ego in the course of accommodating itself to reality; these hypertrophied ego functions will later emerge as survival skills. Thus these children become "street smart" at an
early age, able to spot trouble or a potentially
dangerous situation rapidly, often with an uncanny
ability to read adults or situations. They live in a
realistically dangerous world which is often
unpredictable and frightening [and] by their elementary
school years they are able to negotiate and thrive in a
seemingly hostile environment. (Schaer, 1991, p. 3)

According to Schaer (1991), precociously organized ego
functions also set the stage for increasing psychopathology,
including antisocial behavior. Hypervigilance, perceptual
scanning, and motoric discharge "enhance and facilitate the
use of delinquent acts" (p. 4) as expressions of conflict.
Children with premature ego development lack empathy, feel a
sense of entitlement, and manifest object relations that are
"imbued with aggression" (Schaer, 1991, p. 4).

The nature of traumatic insults which impinge on the
developing ego can be psychic as well as physical. For
example, maternal unavailability may induce in the young
child the same acute feelings of helplessness as does
physical or sexual abuse. However, the prevalence of actual,
criminal abuse in inner-city households should not be
underestimated. According to Solnit (1966, cited in Schaer,
1988, p. 14), the "average expectable environment" of the
inner-city children of poverty is fraught with aggressive
interactions with significant others which leave an
"organized imprint" (Schaer, 1991, p. 2) on the ego.
Overwhelmed by trauma, the child's ego is diverted from developing more advanced defenses and functions. Instead, the ego establishes a rigid preference for motoric discharge of impulses and the constant reenactment of traumatic situations. Provocative aggression by these children not only serves to discharge tension, but also manifests their identification with erratic and hostile parent figures, who may themselves have suffered abuse in childhood. Due to parental inadequacy or pathology, deaggressivization of the aggressive drive under the countervailing influence of libidinal experiences fails in these children. Consequently, neutralized energy is unavailable for the development of stable ego defenses, object relations, and sublimations.

Schaer (1988, 1991) offers valuable insight into the inner world of traumatized children. His conceptualization of distorted psychic development as a consequence of chronic trauma would appear to have considerable application to the delinquent population examined in this study. Schaer (1991) emphasizes, however, that not all traumatized children evince the particular behavior pattern and intrapsychic deficits which he describes. Furthermore, not all children with these deficits engage in interpersonal aggression.

The factors which lead a particular traumatized child to become violent remains unclear. In this study, violent juveniles were shown to have greater pathology in ego, object relations, and impulse than their nonviolent delinquent
peers. It may be that specific vulnerabilities, such as lower intelligence, genetic predisposition for psychosis (Lewis, 1985), and innate aggressiveness (Kernberg, 1974), underlie the propensity for violence in traumatized children. Such children may have a lower threshold for insults to the "stimulus barrier" (Solnit & Kris, 1966, p. 209). Sensitized to intrapsychic and external stress and lacking internal resources, they may be helpless to forestall rapid disorganization. In comparison, children without specific vulnerabilities may have "skewed" ego development manifesting as antisocial behavior, but may be better equipped to maintain adequate control over aggressive impulses.

Relationship of the study to Gacono's (1990) research. Because results from this study can be regarded, in part, as an extension of Gacono's (1990) findings regarding object relations pathology in incarcerated adult psychopaths, a detailed review of methodological differences between Gacono's (1990) research and the present study may be worthwhile. To begin with, the method for categorizing subjects differed in the two studies. Gacono (1990) used both Hare's (1980) and Meloy's (1988) criteria for the 40-point Psychopathy Checklist (PCL; Hare, 1980) to classify adult felons with regard to level of psychopathy, without regard for the types of offenses committed by his subjects. The PCL, a measure of adult psychopathy, was not originally intended for use with adolescents. Furthermore, in the
present study, rating the psychopathy of subjects via individual interviews was precluded, as only archival data were used. Instead, subjects were classified on the basis of the nature of their felony offenses, violent or nonviolent.

Categorizing subjects on the basis of manifest antisocial behavior was a useful classification strategy and is consistent with guidelines for diagnosing Conduct Disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R; American Psychiatric Association, 1987). A DSM-III-R diagnosis of Conduct Disorder is based solely on determination of a persistent pattern of behavior which violates the basic rights of others and major age-appropriate societal norms. In addition, a DSM-III-R diagnosis of Conduct Disorder includes ratings for severity of the disorder. In this study, juveniles charged with violent felonies against persons were conceptualized as more severely disordered, while the nonviolent felony offenders were presumed to constitute a moderately pathological group.

The rationale underlying this distinction reflects the DSM-III-R system. According to DSM-III-R, a "mild" rating for Conduct Disorder is reserved for cases in which there are "few if any conduct problems in excess of [the three] required to make the diagnosis and conduct problems cause only minor harm to others" (American Psychiatric Association, 1987, p. 55). Thus, a juvenile who is a habitual liar and has committed status offenses (such as runaway and truancy)
over a period of at least six months would qualify for a diagnosis of Conduct Disorder - Mild. A "severe" rating is required for behavior problems which are abundantly "in excess of those required to make a diagnosis" or which "cause considerable harm to others, e.g., serious physical injury to victims" (American Psychiatric Association, 1987, p. 55). If a persistent pattern of behavior problems were established, a juvenile charged with aggravated assault would likely receive a diagnosis of Conduct Order - Severe. Finally, in DSM-III-R, a "moderate" rating is given to cases in which the number of specified conduct problems and the effect on others is judged "intermediate between 'mild' and 'severe'" (American Psychiatric Association, 1987, p. 55). Most of the juveniles charged with property felonies in this study would probably qualify for Conduct Disorder - Moderate.

The relationship of Conduct Disorder to psychopathy is complex. Although the authors of DSM-III-R have abandoned the term psychopath, a descriptive label originated by Hervey Cleckley (1976), the DSM-III-R approach to diagnosing Conduct Disorder and Antisocial Personality Disorder continues to reflect the influence of Cleckley's conceptualization. DSM-III-R criteria have considerable overlap with the PCL (Hare, 1980). For example, delinquency is an item on the revised PCL (Hare, 1985), and early onset of Conduct Disorder (before age 15) is a diagnostic criterion for adult Antisocial Personality Disorder in DSM-III-R. The age of
onset for antisocial behavior for youths in this study is unknown, but the average age for first contact with Juvenile authorities was 13.8 years for violent subjects and 14.05 years for nonviolent subjects. In important respects, therefore, the two juvenile offender groups in this study are considered to approximate the two adult criminal groups investigated by Gacono (1990).

As in Gacono's (1990) study, all of the juvenile delinquents in the present study were felony offenders. The original plan for this research project called for the inclusion of 40 male status offenders as a reference group. Unfortunately, the records of the Psychological Services Division of the Dallas County Juvenile Department contained few males with charges limited to status offenses who had received full psychological evaluations; consequently, this group was eliminated. In addition, the nonviolent group included several subjects with misdemeanor assault charges, raising a concern that differences between the nonviolent subjects and the violent subjects might be obscured. In view of these methodological problems, the finding of significant differences in object relations for the violent and nonviolent delinquents in this study is particularly noteworthy.

Directions for future research. Although in the present study the use of archival data was practical and time-efficient, the primary disadvantages were lost subjects (due to the absence of Rorschach tests), incomplete
demographic information, and inadequate diagnostic data. Detailed personal information may be crucial in helping to identify persons at risk for violence. Therefore, future researchers should consider developing a structured or semi-structured interview for use with human subjects. Routine use of a structured interview by psychologists involved with delinquent children would provide a valuable database for subsequent research on violent juvenile crime.

The interview should include an extensive survey of topics relevant to violent juvenile behavior, including the following: history of early childhood abandonment, neglect, and/or separation (including adoption and foster care placement); history of emotional, physical, and/or sexual abuse, either as victim or witness; early aggression; poor academic achievement, diagnosed learning disabilities, and school-related problems (e.g., truancy, grade failure, suspensions, expulsions, referral to alternative campus); psychiatric history, including out-patient psychotherapy, hospitalizations, pharmacological treatment, substance abuse, suicidal ideation and/or suicide attempts; gang involvement; and legal history. In addition, the interview would ideally include a diagnostic inquiry leading to a multi-axial DSM-III-R diagnosis. Multiple diagnoses should be assigned, where indicated.

If feasible, a family interview would be the preferred method for collecting reliable information regarding a
subject's developmental and health history. A family interview could also gather data regarding socioeconomic status and family structure, as well as familial history of psychiatric problems, criminality, violence, and substance abuse. Information about nutrition and child-rearing styles, including disciplinary practices, should be obtained.

In the typical psychological evaluation, a clinician selects instruments to address the assessment question and to clarify diagnosis. For research purposes, however, administration of a uniform battery of psychological tests would insure comparability of data across subjects. Results from the present study confirm the value of including projective instruments, such as the Rorschach Inkblot Test, in research on violent juveniles.

In future studies, an alternative approach to the classification of subjects might be advisable. For example, subjects could be categorized on the basis of severity of Conduct Disorder. If, for the purpose of replicating these results, subjects were classified by offense, the inclusion of other violent offender groups (e.g., juveniles charged with murder or aggravated sexual assault) should be considered. Status offenders or misdemeanants could comprise appropriate reference groups.

Compared to males, relatively few females are referred to the juvenile authorities for violent offenses. However, the number of females referred to the Dallas County Juvenile
Department for aggravated assault increased 77.5% over the past three years, from 40 in 1989 to 71 in 1991. During the same period, the number of females referred for misdemeanor assault increased 98%, from 51 to 101. Violent female juveniles clearly constitute a group worth investigating.

A longitudinal study of youths considered to be at risk for violence would be an important undertaking. Findings from the present study indicate the potential usefulness of the PRP in helping to identify violence-prone youths at their earliest contact with the juvenile justice system. The determination of cut-off scores for PRP scales that can discriminate violent and nonviolent juvenile offenders is a promising topic for future research. PRP cut-off scores, demographic information, and relevant data from other psychological tests could comprise a constellation of violence-prone variables that could be tested in discriminant function analysis. Replication of this study with violent and nonviolent adult felony offenders is also recommended.
<table>
<thead>
<tr>
<th>Group</th>
<th>Mean age (in years)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Entire Sample</strong></td>
<td>14.81</td>
<td>1.21</td>
</tr>
<tr>
<td>(N = 80)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Violent</strong></td>
<td>14.98</td>
<td>1.19</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Nonviolent</strong></td>
<td>14.50</td>
<td>1.20</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Violent is aggravated assault subjects. Nonviolent is felony property offenders.
<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Entire Sample</th>
<th>Violent</th>
<th>Nonviolent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N = 80)</td>
<td>(n = 40)</td>
<td>(n = 40)</td>
</tr>
<tr>
<td>A-A</td>
<td>56.9</td>
<td>60</td>
<td>52.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>24.4</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>Cauc.</td>
<td>15.1</td>
<td>17.5</td>
<td>15</td>
</tr>
<tr>
<td>Other</td>
<td>3.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
</tbody>
</table>


"Other" includes Asians and subjects of mixed ethnicity.
Table A-3

Measured Intelligence of Research Subjects (Mean IQ)

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean IQ</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Sample</td>
<td>91.80</td>
<td>11.10</td>
<td>71-122</td>
</tr>
<tr>
<td>(N = 80)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent</td>
<td>89.98</td>
<td>10.53</td>
<td>71-113</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonviolent</td>
<td>93.03</td>
<td>11.04</td>
<td>74-118</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. For 11 subjects (4 aggravated assault subjects and 7 felony property offenders), the reported IQ was a Full Scale IQ on the Wechsler Intelligence Scale for Children - Revised. For 69 subjects, the reported IQ was from the Culture Fair Intelligence Test.
Table A-4

Intelligence Range Classifications for Research Subjects (in Percentages)

<table>
<thead>
<tr>
<th>Group</th>
<th>Average (IQ = 90-109)</th>
<th>Low Average (IQ = 80-89)</th>
<th>Borderline (IQ = 70-79)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Sample</td>
<td>48.8</td>
<td>33.8</td>
<td>10</td>
</tr>
<tr>
<td>(N = 80)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent</td>
<td>55</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonviolent</td>
<td>42.5</td>
<td>42.5</td>
<td>5</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. No subject was classified in the Superior range. Eight subjects (7.5%) were classified as High Average. Persons with IQs below 70 were excluded from the study.
Table A-5

Mean Number of Prior Offenses

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean # Priors</th>
<th>SD</th>
<th>Test of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entire Sample</td>
<td>2.56</td>
<td>1.97</td>
<td></td>
</tr>
<tr>
<td>(N = 80)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent</td>
<td>1.90</td>
<td>1.70</td>
<td>t(78) = -2.88, p &lt; .005</td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonviolent</td>
<td>3.18</td>
<td>2.18</td>
<td></td>
</tr>
<tr>
<td>(n = 40)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table A-6

**Interrater Reliability Coefficients of the 10 Scales of the PRP**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundary</td>
<td>.84</td>
</tr>
<tr>
<td>Stability</td>
<td>.89</td>
</tr>
<tr>
<td>Thought Disturbance</td>
<td>.80</td>
</tr>
<tr>
<td>Animation</td>
<td>.94</td>
</tr>
<tr>
<td>Differentiation of Boundaries</td>
<td>.81</td>
</tr>
<tr>
<td>Mutuality of Interaction</td>
<td>.80</td>
</tr>
<tr>
<td>Oral Receptive Impulse</td>
<td>.91</td>
</tr>
<tr>
<td>Oral Aggressive Impulse</td>
<td>.89</td>
</tr>
<tr>
<td>Anal Impulse</td>
<td>.91</td>
</tr>
<tr>
<td>Phallic-Vaginal Impulse</td>
<td>.84</td>
</tr>
</tbody>
</table>

**Note.** The values are Spearman rank-order correlation coefficients.
Table A-7

**Interrater Agreement on Nominal Scales of the PRP (in Percentages)**

<table>
<thead>
<tr>
<th>Scale</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitalized</td>
<td>100</td>
</tr>
<tr>
<td>Devitalized</td>
<td>97</td>
</tr>
<tr>
<td>Anthropomorphized</td>
<td>98</td>
</tr>
<tr>
<td>Positive Valence</td>
<td>98</td>
</tr>
<tr>
<td>Negative Valence</td>
<td>93</td>
</tr>
<tr>
<td>Implied Other</td>
<td>98</td>
</tr>
</tbody>
</table>
### Table A-8

**Mann-Whitney U Analyses Comparing Violent Subjects and Nonviolent Subjects on Scales of the PRP**

<table>
<thead>
<tr>
<th>Scale</th>
<th>U</th>
<th>$N_1$, $N_2$</th>
<th>$p &lt;$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundary</td>
<td>60129</td>
<td>821, 870</td>
<td>.001</td>
</tr>
<tr>
<td>Stability</td>
<td>29960.5</td>
<td>821, 870</td>
<td>.001</td>
</tr>
<tr>
<td>Thought Disturbance</td>
<td>2033.5</td>
<td>94, 60</td>
<td>.01</td>
</tr>
<tr>
<td>Animation</td>
<td>45841</td>
<td>821, 870</td>
<td>.001</td>
</tr>
<tr>
<td>Differentiation</td>
<td>-4319</td>
<td>265, 223</td>
<td>.001</td>
</tr>
<tr>
<td>Mutuality</td>
<td>5279.5</td>
<td>114, 117</td>
<td>.01</td>
</tr>
<tr>
<td>Total Impulse</td>
<td>11778.5</td>
<td>461, 462</td>
<td>.001</td>
</tr>
<tr>
<td>Overall Impulse$^a$</td>
<td>10022</td>
<td>461, 462</td>
<td>.001</td>
</tr>
</tbody>
</table>

**Note.** Violent subjects scored in the more pathological direction on all scales.

$^a$Overall Impulse is a modification of the Total Impulse scale.
Table A-9

Comparison of Offense Groups on Frequency of Use of Three PRP Scales

<table>
<thead>
<tr>
<th>Scale</th>
<th>V</th>
<th>NV</th>
<th>$X^2$</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutuality</td>
<td>114</td>
<td>117</td>
<td>.04</td>
<td>n.s.</td>
</tr>
<tr>
<td>Negative Valence</td>
<td>129</td>
<td>109</td>
<td>1.68</td>
<td>n.s.</td>
</tr>
<tr>
<td>Implied Other</td>
<td>24</td>
<td>20</td>
<td>.36</td>
<td>n.s.</td>
</tr>
</tbody>
</table>

Note. V is Violent subjects. NV is Nonviolent subjects.
For all tests, df = 1.
Table A-10

Frequency of Use of Lowest and Highest Scale Levels

<table>
<thead>
<tr>
<th>Scale/Levels</th>
<th>Violent (n = 40)</th>
<th>Nonviolent (n = 40)</th>
<th>$X^2$ V vs. NV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boundary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>109</td>
<td>89</td>
<td>2.02</td>
</tr>
<tr>
<td>(3 + 4)</td>
<td>715</td>
<td>784</td>
<td>3.18</td>
</tr>
<tr>
<td>Stability</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>52</td>
<td>53</td>
<td>.01</td>
</tr>
<tr>
<td>(3 + 4)</td>
<td>770</td>
<td>818</td>
<td>1.45</td>
</tr>
<tr>
<td>Thought Dist.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>74</td>
<td>51</td>
<td>4.23*</td>
</tr>
<tr>
<td>(3 + 4)</td>
<td>20</td>
<td>9</td>
<td>4.17*</td>
</tr>
<tr>
<td>Animation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>183</td>
<td>162</td>
<td>1.28</td>
</tr>
<tr>
<td>(3 + 4)</td>
<td>639</td>
<td>707</td>
<td>3.44</td>
</tr>
<tr>
<td>Differentiation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>37</td>
<td>35</td>
<td>.06</td>
</tr>
<tr>
<td>(3 + 4)</td>
<td>241</td>
<td>193</td>
<td>5.31</td>
</tr>
<tr>
<td>Mutuality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>22</td>
<td>11</td>
<td>3.67</td>
</tr>
<tr>
<td>(3 + 4)</td>
<td>44</td>
<td>59</td>
<td>2.18</td>
</tr>
<tr>
<td></td>
<td>144</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Oral Receptive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>119</td>
<td>131</td>
<td>.58</td>
</tr>
<tr>
<td>(3 + 4)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>144</th>
<th>44</th>
<th>42</th>
<th>.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Aggressive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>131</td>
<td>147</td>
<td>.92</td>
<td></td>
</tr>
<tr>
<td>(3 + 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>144</th>
<th>12</th>
<th>5</th>
<th>2.88</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anal Impulse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>36</td>
<td>37</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>(3 + 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>144</th>
<th>2</th>
<th>3</th>
<th>.20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phallic-Vaginal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>99</td>
<td>85</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>(3 + 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>144</th>
<th>75</th>
<th>73</th>
<th>.03</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Impulse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 + 2)</td>
<td>385</td>
<td>400</td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td>(3 + 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note.** The following scales were transformed into 4-level versions for the purpose of statistical comparison: Boundary, Thought Disturbance, Animation, and Mutuality of Interaction. V is Violent subjects. NV is Nonviolent subjects. For all tests, df = 1.

*p < .05
EGO STRUCTURE

Boundary Scale
1 = Undefined
2 = Fluid and Uncontained
3 = Moderate Damage
4 = Permeable or Transparent
5 = Incomplete
6 = Distorted
7 = Rigid
8 = Alterable but Distinct
9 = Definite and Flexible

Stability Scale
1 = Fragmentation, Death
2 = Incipient Fragmentation or Repair
3 = Precarious Integrity
4 = Enduring and Solid

Thought Disturbance Scale
1 = Deviant Verbalization
2 = Incongruous Combination
3 = Deviant Response
4 = Fabulized Combination
5 = Autistic Logic
6 = Contamination
OBJECT RELATIONS

Animation Scale
1 = Thing Detail
2 = Thing
3 = Food Detail
4 = Food
5 = Nature Detail
6 = Nature
7 = Animal Detail
8 = Quasi-Animal Detail
9 = Animal
10 = Quasi-Animal
11 = Quasi-Human Detail
12 = Human Detail
13 = Quasi-Human
14 = Human

Differentiation of Boundaries Scale
1 = Enveloped
2 = Interpenetrating or Partially Obscured
3 = Touching but Distinct
4 = Separate

Mutuality of Interaction Scale
1 = Powerful Imbalance
2 = Reflection
3 = Ambiguous Interaction
4 = One Way
5 = Reciprocal
IMPUlSE

**Oral Receptive Impulse Scale**
1 = Direct: Elaborated or Unelaborated
2 = Nearly Direct: Elaborated or Unelaborated
3 = Indirect: Elaborated or Unelaborated
4 = Sublimated

**Oral Aggressive Impulse Scale**
1 = Direct: Elaborated or Primitively Elaborated
2 = Direct Unelaborated/Indirect Elaborated
3 = Indirect Unelaborated
4 = Sublimated

**Anal Impulse Scale**
1 = Direct: Elaborated or Primitively Elaborated
2 = Direct Unelaborated
3 = Indirect: Elaborated or Unelaborated
4 = Sublimated

**Phallic-Vaginal Impulse Scale**
1 = Direct: Elaborated or Primitively Elaborated
2 = Direct Unelaborated
3 = Indirect: Elaborated or Unelaborated
4 = Sublimated
SPECIAL SCALES

**Vitalized Scale**
1 = Present

**Devitalized Scale**
1 = Present

**Anthropomorphized Scale**
1 = Present

**Positive Valence Scale**
1 = Benevolence
2 = Idealization

**Negative Valence Scale**
1 = Depreciation or Devaluation
2 = Malevolence

**Implied Other Scale**
1 = Present

---

**Note.** Adapted from the Psychoanalytic Rorschach Profile (Gorlitz, Burke, & Friedman, 1986).
APPENDIX C

SAMPLE RESPONSES
The following Rorschach responses given by subjects in the study have been scored according to the Psychoanalytic Rorschach Profile (Gorlitz, Burke, & Freidman, 1986). Refer to Appendix B for a concise explanation of scores. See the concluding note for an explanation of abbreviations.

Card I

FA: Two people fighting.
INQ: The legs down here, shaped like that. The two heads, hands. (You said fighting?) Or arguing.

Scoring

B = 9 Anim = 14 O-R = - Special Score: Neg 2
St = 4 Diff = 4 O-A = 4
TD = - Mut = 5 Anal = -

Ph-V = -

Card II

FA: This looks like an airplane - a jet with thrusters.
INQ: Looks like the fire coming out of a jet. It looks like a jet because of the wings, the point of it, the way it's shaped.

Scoring

B = 7 Anim = 2 O-R = -
St = 4 Diff = - O-A = -
TD = - Mut = - Anal = 3

Ph-V = 3
Card II
FA: A bug.
INQ: Little ant. The face and the body part. It’s got a wide body. (What makes it look like a face?) Because it has stuff [that] looks like hair, antenna, two little eyes. This open right here [is] a mouth. It got a wide body. These look like claws.

Scoring
B = 9  Anim = 9  O-R = 4
St = 4  Diff = -  O-A = 2
TD = -  Mut = -  Anal = -
    Ph-V = -

Card II
FA: Looks like a gorilla - looks like his head, like he’s clapping his hands.
INQ: These are the hands. These are two gorilla[s] - the other arm. They are sitting down on these things. Looks like they hit their hands together and it got red, I guess. They could have something in their hands to make it go like that, to make it go like that when they hit their hands.

Scoring
B = 9  Anim = 9  O-R = -
St = 4  Diff = 3  O-A = -
TD = -  Mut = 5  Anal = -
    Ph-V = -
Card III

FA: It looks like two peoples. They cooking something. They got on some shoes.

INQ: The body, the shoes. Right there the little cooking pot.

Scoring

B = 9 Anim = 14 O-R = 3
St = 4 Diff = 4 O-A = -
TD = - Mut = 5 Anal = -

Ph-V = -

Card III

FA: A lobster with big eyes and big teeth. With his lungs showing. With two squids behind him on the side.

INQ: Everything. The way it's shaped, the clippers, the way it looks like it's crawling. (What makes it look like lungs?) Because that's what human lungs look like - the way it's shaped. That just looks like a squid because it's real squiddy so it's a squid. Ooh!

Scoring

B = 4 Anim = 9 O-R = -
St = 4 Diff = 4 O-A = 2
TD = 1,4 Mut = - Anal = -

Ph-V = -
Card V

FA: That looks like a man. Like somebody stuck something in his stomach. It's like his hair is going wild on top. Here's his mouth, his eye, and there's his chin. [He] has got a lump in his back, but he don't got a leg right there.

INQ: The chin is here, mouth, nose, and eye. (What makes it look like an eye?) It's darker here in front - see the eye. Lump in his back. And somebody stuck something in him and it's coming out the back. Here's his feet. He ain't got but one foot.

Scoring

\[
\begin{align*}
B &= 3 \\
\text{Anim} &= 14 \\
0-R &= 4 \\
\text{Special Score: Neg 2, I-O} \\
\text{St} &= 1 \\
\text{Diff} &= - \\
0-A &= - \\
\text{TD} &= - \\
\text{Mut} &= - \\
\text{Anal} &= - \\
\text{Ph-V} &= 3
\end{align*}
\]

Card V

FA: A butterfly, definitely.

INQ: That's the body and that's the wings and the tail right there, and that's the head.

Scoring

\[
\begin{align*}
B &= 9 \\
\text{Anim} &= 9 \\
0-R &= - \\
\text{St} &= 4 \\
\text{Diff} &= - \\
0-A &= - \\
\text{TD} &= - \\
\text{Mut} &= - \\
\text{Anal} &= - \\
\text{Ph-V} &= -
\end{align*}
\]
Card V

FA: A lady looking in the mirror talking to herself.

INQ: That's the lady right there, and she's standing looking in the mirror. (What makes it look like a lady?) Because she got hair like a lady.

Scoring

<table>
<thead>
<tr>
<th>B</th>
<th>Anim</th>
<th>O-R</th>
<th>St</th>
<th>Diff</th>
<th>O-A</th>
<th>TD</th>
<th>Mut</th>
<th>Anal</th>
<th>Ph-V</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>14</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Card V

FA: Looks like a bee. It's wide. Gots two ears on his head. Has two wings. Think this looks like a leg right here. Looks like feet. He's also black and ugly and scary. I don't know what's supposed to be right here. I don't know. That's it.

INQ: The shape, things going through here, things going through here. (Scary?) He doesn't really look scary. Right here something coming out through here and right here.

Scoring

<table>
<thead>
<tr>
<th>B</th>
<th>Anim</th>
<th>O-R</th>
<th>St</th>
<th>Diff</th>
<th>O-A</th>
<th>TD</th>
<th>Mut</th>
<th>Anal</th>
<th>Ph-V</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>9</td>
<td>-</td>
<td>4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Special Score: Neg 2
Card VI

FA: Cat head with whiskers.

INQ: Whiskers, hair, fur.

Scoring

B = 9  Anim = 7  O-R = -
St = 4  Diff = -  O-A = -
TD = -  Mut = -  Anal = -
              Ph-V = -

Card VI

FA: Ooh, let's see here [laughs]. Looks like a worm with an oversized body and two wings and whiskers up by its neck. And it's real gentle-looking, looks laidback, relaxed.

INQ: The whole thing. This right here looks like a worm, and then it comes out like that. These look like wings, just the way they're shaped. (You said whiskers?) These look like whiskers, straight lines. Oversized body. (You said relaxed?) Looks like it wasn't doing nothing - just laying there.

Scoring

B = 6  Anim = 9  O-R = -  Special Score: Pos 1
St = 4  Diff = -  O-A = -
TD = 2  Mut = -  Anal = -
              Ph-V = 3
Card VI

FA: Looks like a bull - like he's dead. He's fat. This is supposed to be his legs. Here's his mouth and his lips. On the lips it looks like it's got two little holes. On the head, two hairs coming out the sides. Two birds pulling his cheeks open, trying to get some meat from him. He must be asleep or dead because look at the birds biting him here.

INQ: (You said dead?) The way he's laying down. Right here - the shape. There's the two little hairs. (What made it look like birds?) The way they look from the back, like wings. Right here. (You said two little holes?) The way they're shaped. (Pulling?) The way they got him right here.

Scoring

B = 9  Anim = 9  O-R = 1  Special Score: DeVit,
St = 1  Diff = 2  O-A = 1  Neg 2
TD = -  Mut = 3  Anal = 4
    Ph-V = -

Card IX

FA: Like the sky.

INQ: Blue and kind of white.

Scoring

B = 1  Anim = 2  O-R = -
St = 4  Diff = -  O-A = -
TD = -  Mut = -  Anal = -
    Ph-V = -
Card IX

FA: Can't think of nothing. Looks like a volcano blew up and all this debris is flying from it. It's red - the lava.

INQ: This looks like smoke or something. These little lines make it look like it's moving out. (What makes it look like smoke?) The black part and all that. (What makes it look like lava?) Coming down, it's red. (You said a volcano?) It's in the back but you can't see it, all that's in the way.

Scoring

B = 4 Anim = 2 O-R = -
St = 1 Diff = 2 O-A = -
TD = - Mut = - Anal = 3
    Ph-V = -

Card IX

FA: Could be a fly-man. Head, shoulders, arms like this [put his hands on his hips]. Head up here. He's standing up with his hands on his hips.

INQ: Shoulders, arms, hands on hips. Here's his neck, head. These are his legs and he's standing.

Scoring

B = 6 Anim = 13 O-R = -
St = 4 Diff = - O-A = -
TD = 6 Mut = - Anal = -
    Ph-V = -
Card IX
FA: Face of an elephant, with his ears. He's standing in back of two trees.
INQ: Ears and size of head, real big. (What made it look like trees?) Looks like something you'd see rising up with two feet in the air, craning from the back of some trees. (What made it look like a tree?) Top comes out - green.
Scoring
B = 9 Anim = 7 O-R = -
St = 4 Diff = 2 O-A = -
TD = - Mut = - Anal = -
Ph-V = -

Card X
FA: These look like yellow stuff coming out of the beetle [from a previous response], like it's taking a crap or something, and this looks like his feet are bleeding.
INQ: This is coming out of the butt hole. This is coming out of his feet. (What made it look like blood?) Because it was red.
Scoring
B = 3 Anim = 7 O-R = - Special Score: Neg 2
St = 3 Diff = - O-A = -
TD = - Mut = - Anal = 1
Ph-V = -
Card X

FA: Like a rabbit with frog legs.

INQ: Little gray rabbit. (You said frog legs?) Green and like feet on a frog, or legs.

Scoring

B = 6 Anim = 9 O-R = -
St = 4 Diff = - O-A = -
TD = 2 Mut = - Anal = -

Ph-V = -

Note. FA is Free Association. INQ is Inquiry. B is Boundary, St is Stability, TD is Thought Disturbance, Anim is Animation, Diff is Differentiation of Boundaries, Mut is Mutuality of Interactions, O-R is Oral-Receptive Impulse, O-A is Oral-Aggressive Impulse, Anal is Anal Impulse, Ph-V is Phallic-Vaginal Impulse, Vit is Vitalized, DeVit is Devitalized, Anth is Anthropomorphized, Pos 1 is Positive Valence 1, Pos 2 is Positive Valence 2, Neg 1 is Negative Valence 1, Neg 2 is Negative Valence 2, I-O is Implied Other.
REFERENCES


Measuring intelligence with the Culture Fair tests: 
Manual for scales 2 and 3. Author.
York: International Universities Press.
Achievement Test - Revised. Wilmington, DE: Jastak 
Associates, Inc.
Johnson, A. N., & Szurek, S. A. (1952). The genesis of 
antisocial acting out in children and adolescents. 
Psychoanalytic Quarterly, 21, 323-343.
circumstance information, censure, and aggression. 
the personality structure and psychogenesis of ideopathic 
relations. International Journal of Psycho-Analysis, 47, 
236-253.
Journal of the American Psychoanalytic Association, 15, 
641-685.
Kernberg, O. (1970). A psychoanalytic classification of 
character pathology. Journal of the American 
Psychoanalytic Association, 18, 800-822.


Boston: Little, Brown.

New York: G. P. Putnam's Sons. (Original work published 1876)


