This is to certify that the

dissertation entitled

Early Childhood Trauma and Maternal Childrearing Attitudes: Their Contributions to Object Representations in Delinquent and Nondelinquent Adolescent Boys

presented by

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has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Counseling Psychology

Major professor

Date May 28, 1996

EARLY CHILDHOOD TRAUMA AND MATERNAL CHILDREARING ATTITUDES: THEIR CONTRIBUTIONS TO OBJECT REPRESENTATIONS IN DELINQUENT AND NONDELINQUENT ADOLESCENT BOYS

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Counseling, Educational Psychology
and Special Education

1996

ABSTRACT

EARLY CHILDHOOD TRAUMA AND MATERNAL CHILDREARING ATTITUDES: THEIR CONTRIBUTIONS TO OBJECT REPRESENTATIONS IN DELINQUENT AND NONDELINQUENT ADOLESCENT BOYS

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Sandi Lyn Isaacson

Juvenile delinquency has become a major economic and sociological problem. Delinquent youth are a perplexing, treatment-resistant population who present mental health professionals with increasing demands for services. Prevailing theories have been unable to explain the interrelationships among the numerous etiological factors found to contribute to delinquency. Attachment theory postulates that based upon experiences in early childhood, particularly relationships with early caregivers, individuals develop internal representations of themselves and others which organize subsequent interpersonal behavior. Those individuals who experience parenting which does not adequately meet their emotional or physical needs, or who experience early childhood trauma develop internal representations of others as hurtful and unavailable and are likely to react with hostility and aggression toward others.

This study utilizes attachment theory to understand previous findings and investigates the relative contributions of early childhood trauma and maternal childrearing attitudes to the object representations of delinquent and nondelinquent adolescent boys as measured by the Rorschach Inkblot Test. Delinquent boys experienced more frequent and more severe early childhood trauma than nondelinquent boys. Within the subgoup of majority boys, delinquent boys' mothers endorsed more harsh, abusive attitudes towards

childrearing; for the subgroup of minority boys, nondelinquent boys' mothers endorsed the harsher childrearing attitudes. No significant differences were found between delinquent and nondelinquent boys on Rorschach variables which reflect object representations or on a measure of boys' perceptions of their attachment relationships with their mothers. Observed results from the Rorschach Inkblot Test suggest that urban adolescents in general are more alienated and detached than previously thought. Nondelinquent adolescents were found to have better verbal skills, more responsive mothers, and to have experienced less early trauma, factors which may prevent engagement in delinquent behavior.

To those who shared the dream.

ACKNOWLEDGMENTS

Many have commented that completing a dissertation is a lonely process. This has not been true for me. I have had the good fortune to have many friends, colleagues and mentors support and guide me throughout this process. While it would be impossible to thank each of them individually, I would like to recognize those whose help has been invaluable.

I deeply appreciate the support and guidance of my chairman, Dr. Frederick G. Lopez, and committee members, Dr. W. Patrick Dickson, Dr. Elizabeth A. Seagull, and Dr. Robbie J. Steward. Each has contributed in a unique and profound way to my personal and professional growth.

The assistance and cooperation of the Ingham County Probate Court and The Honorable Donald S. Owens, Chief Judge as well as the Ingham County Youth Center, its superintendent, Mr. Nervy C. Oliver, and psychologist, Dr. Garrett L. Turke, inspired this study and made it possible. It is through Dr. Turke's mentorship and compassionate supervision that I first became interested in the area of delinquency and learned how to "hang in there" with myself and others. I will be forever indebted to Dr. Turke and Mr. Oliver for their dedication, support, friendship, and unwavering confidence in me.

I would like to thank the Lansing School District, Dr. Richard Halik superintendent, the Office of Student Support Services and the Office of Research and Evaluation Services and

the Boys and Girls Club of Greater Lansing for assisting with data collection and for allowing me access to their facilities.

A special thank you to Grace Gibson for her ceaseless dedication and countless hours of work that went well above and beyond anything I had hoped for. Grace began this project as my research assistant and concluded it as my friend, the most important outcome measure of all.

I would also like to extend a heartfelt thank you to all of my friends who helped to keep me "human" during the toughest of times. To Stuart, Richard, Diane, Deb, Jim, Linda, Steve, Jerry, Tom, Frank, Terry, and the rest of the gang, thanks for always believing in me and never giving up.

Finally, I would like to thank the boys and their mothers who participated in this study. I recognize that it was not always easy for you to share so honestly with a stranger. Many of you expressed the hope that this work would somehow help another youngster choose a better path in life. I share this hope with you.

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CHAPTER 1

Introduction

Juvenile delinquency has become a major economic and social problem. In 1989, youth between ages 13 and 18 years old accounted for 18.7% of arrests while comprising only 8.3% of the population (Maguire & Flanagan, 1991). In 1994, they accounted for 21.2% of all arrests while still comprising only 8.3% of the population (Federal Bureau of Investigation, 1995). Between 1989 and 1994 the arrest rate of juveniles under age 18 increased 172% for murder and non-negligent manslaughter, 126% for forcible rape, and 180% for aggravated assault while the rates for adults remained virtually unchanged (Federal Bureau of Investigation, 1995).

Juvenile delinquents are a perplexing, treatment-resistant population who often appear hostile, angry, impulsive, mistrustful, and unable to form useful therapeutic alliances (Willock, 1986, 1987). Biological, sociological and psychological theories have been proposed to explain the nature and etiology of delinquent behavior. The prevailing theories, however, have not addressed the possible interrelationships among early childhood experiences, parental childrearing attitudes, subsequent object representations and their conjoint contributions to delinquency.

Attachment theory has recently been suggested as a framework for linking early childhood experiences to subsequent delinquent behavior in adolescents (Allen, Aber, & Leadbeater, 1990; Deutsch & Erickson, 1989; Weber, 1990). Attachment theory, which proposes that humans have an innate biological need to form meaningful interpersonal relationships (Bowlby, 1958, 1977a, 1977b), offers a viable explanation for the development, continuation and cessation of delinquent behavior.

Juvenile delinquency has been related to a history of frequent, traumatic life events prior to four years of age (Deutsch & Erickson, 1989). It has also been related to poor family functioning (Loeber & Dishion, 1983; Loeber & Stouthamer-Loeber, 1986) and various inadequacies in parenting such as parental inconsistency and emotional unavailability (Brand, Crous, & Hanekom, 1990; Davidow & Bruhn, 1990; Feehan, McGee, Stanton, & Silva, 1991; Steinberg, 1987; Wells & Rankin, 1988), lack of nurturing and protection (Davidow & Bruhn, 1990) and familial violence and abuse (Lewis, Shanock, Pincus, & Glaser, 1980; Steinberg, 1987).

Research has not yet integrated these distinct findings into a more comprehensive model of delinquent behavior. Attachment theory provides a framework for hypothesizing that parental attitudes moderate the effects of stressful events occurring in early childhood to the development of object representations. Object representations, which are internal models of others and influence interpersonal behavior, are poorly developed in individuals with conduct disorders and antisocial personality disorders. These individuals tend to be detached from others and avoid engaging in close interpersonal relationships (Gacono & Meloy, 1991; 1994; Meloy, 1998; Weber, 1990; Weber, Meloy, & Gacono, 1992). Distortions in the perception of

self and others have been found in youngsters who commit a wide range of criminal acts (Exner, 1986; Greco & Cornell, 1992; Ray, 1963), suggesting that delinquency may also be related to poorly developed object representations. Further research is needed to clarify the contributions of life events and parental childrearing attitudes on object representations for delinquent and nondelinquent adolescents.

Purpose

The purpose of this study was to examine differences between delinquent and nondelinquent boys in their experiences of early childhood life events, in their mothers' attitudes toward childrearing, and in their current object representations. The study further investigated whether maternal attitudes toward childrearing moderate the effect of early childhood life events upon current object representations. Before identifying the specific hypotheses under investigation, the remaining sections of this chapter will briefly overview the theoretical framework guiding this investigation and highlight some key findings from the existent literature. A more detailed discussion of the literature will be found in Chapter 2.

Theoretical Framework

Attachment Theory

Attachment theory posits that parent-child interactions in infancy and early childhood (a) form the foundation for the way in which individuals perceive themselves in relationships with others and (b) organize how individuals behave in interpersonal situations. Children who have formed "secure" attachments are more likely to view the world as a nurturing,

trustworthy place and to enjoy engaging in emotionally close, reciprocal interpersonal relationships. Children who do not form secure attachment relationships with their caregivers, on the other hand, are likely to experience significant difficulty with interpersonal relationships throughout their lifespan (Ainsworth, 1989; Bowlby, 1977a; 1977b; 1988; Goldberg, 1991; Paterson & Moran, 1988).

Those persons whose parents are not adequately responsive in infancy are more likely to develop insecure attachments (Bowlby, 1988; Cicchetti & Barnett, 1992; Main & Stadtman, 1981; Spieker, 1986). They are more likely to experience behavioral difficulties in childhood and evidence various forms of psychopathology in adulthood (Bowlby, 1977a; Cicchetti & Barnett, 1992; Lyons-Ruth, Alpern, & Repacholi, 1993; Parkes, 1982; Paterson & Moran, 1988). These insecurely attached individuals generally perceive other people as hostile, unavailable, and unable to meet their needs. They tend to be more aggressive, oppositional, and violent in childhood and adolescence (Cohn, 1990; Lyons-Ruth et al., 1993; Renken, Egeland, Marvinney, Mangelsdorf, & Sroufe, 1989; Speltz, Greenberg, & Deklyen, 1990; Sroufe, 1982).

Adolescents with insecure attachments to parents are at an increased risk of engaging in delinquent and other maladaptive behavior (Allen et al., 1990). Members of this group are more likely to evidence conduct problems, inattentiveness and depression (Nada Raja, McGee, & Stanton, 1992; Burbach, Kashani, & Rosenberg, 1989). Adolescent aggression can be predicted from a prior history of impaired parent-child relations (Haapasalo & Tremblay, 1994; Simons, Robertson, & Downs, 1989).

Object Representations

A child's perception of human relationships is influenced by the interaction between parent and child throughout the child's early years. This perception ultimately becomes a stable model for representing all interpersonal relationships (Horner, 1984; Mayman, 1967). According to Bowlby, the originator of attachment theory, this representation becomes internalized by approximately five years of age (Bowlby, 1977a). Based upon experiences of eliciting or failing to elicit caring and protection from a primary caregiver during these early years, individuals develop "internalized working models" of themselves and others (Bowlby, 1958; Crittenden, 1990; Hopkins, 1990).

Bowlby's "internal working models" are similar in structure and function to early "object representations" of object relations theory (Horner, 1984,1991; Levine & Tuber, 1993). Both reflect the relationship with a primary (usually maternal) caregiver and, once formed, exert a persistent, unconscious influence upon cognition, affect and behavior (Blatt & Lerner, 1983; Bowlby, 1977a, 1988; Horner, 1984; Mayman, 1967; Stricker & Healey, 1990).

Conduct-disordered youngsters and psychopathic adults have been noted to have poorly developed object representations (Exner, 1986; Gacono, 1988; 1990; Gacono & Meloy, 1991; Meloy, 1988; Weber, 1990; Weber, Meloy, & Gacono, 1992). Delinquent youth have also been found to have impaired object representations (Exner, 1986; Exner, Bryant, & Miller, 1975; Greco & Cornell, 1992; Ray, 1963). This study proposed that serious delinquents, those who have committed acts that would be felonies if committed by an adult, would differ significantly from nondelinquents in the quality of their object representations. It further proposed that these differences were related to measurable differences in their history of

stressful life events and differences in parental childrearing attitudes between mothers of delinquent and nondelinquent boys.

Early Life Events

Research has related the severity of delinquent behavior to the amount of trauma experienced in early childhood (Deutsch & Erickson, 1989). An early study by Bowlby (1947) related juvenile theft to early maternal loss and frequent changes in caregivers. More recently, studies have shown that psychological "loss" of the parent due to the parent's emotional unavailability may be just as damaging as actual parental loss (Bowlby, 1984).

Children's physical, emotional and behavioral adjustment problems have been associated with environmental and familial stressors including parents' physical health and hospitalization, financial deprivation, and parental divorce (Longfellow & Belle, 1984; Loss, Beck, & Wallace, 1995). Children and adolescents hospitalized for physical ailments were found to experience a greater number of stressful life events in the year prior to hospitalization than their non-hospitalized peers (Coddington, 1972a, 1972b, 1984). This suggests that stressful life events contribute to physical illness.

Stressful events experienced in early childhood can also affect emotional and behavioral development. Young children identified by their teachers as having adjustment problems experienced significantly more stressful life events in the preceding year than children who did not display such problems (Sandler & Block, 1979). Undersocialized delinquent adolescents experienced a greater number of environmental stressors, especially between the ages of two and four years old, than their socialized delinquent peers (Deutsch & Erickson, 1989).

While the impact of certain life stressors such as parental criminality or broken homes upon delinquent behavior has received a significant amount of attention, there is a need to examine the impact of a wide range of stressful life events upon delinquency, especially events occurring in early childhood (Deutsch & Erickson, 1989; Kolvin, Miller, Fleeting, & Kolvin, 1988). This study examined differences in the occurrence of a wide range of stressful events using a comparison group of nondelinquent youth from the same geographic and socioeconomic background and focusing on life events which occurred prior to four years of age.

Parental Attitudes Toward Childrearing

Maltreated children are more likely to engage in delinquent and criminal behavior as adolescents and adults (Luntz & Widom, 1994; Van Voorhis, Cullen, Mathers, & Garner, 1988; Widom, 1989a). Maltreatment has been strongly associated with specific parental attitudes towards child rearing which include lack of empathy, inappropriate developmental expectations, role reversal, and endorsement of physical punishment (Call, 1984). Investigations of child rearing attitudes of parents of delinquent youth have reported similar findings.

The parents' interest in the child and the management strategies they use to influence the child's behavior are among the most powerful predictors of delinquency (Loeber & Dishion, 1983; Loeber & Stouthamer-Loeber, 1986; Snyder & Patterson, 1987). Parental rejection, indifference and belief in harsh physical punishment have all been associated with the development of delinquent behavior (Farrington, 1978; Gove & Crutchfield, 1982; Haapasalo

& Tremblay, 1994; Simons, Robertson, & Downs, 1989). Children whose parents are unable to respond empathically are especially prone to violent, aggressive behavior (Furman & Furman, 1984; Sroufe, 1982).

Studies that directly observed parental dynamics indicated that maternal hostility, inconsistent discipline, and rejection are all strongly related to adolescent delinquency (DiLalla, Mitchell, Arthur, & Pagliocca, 1988; Farrington, 1978; Feehan et al., 1991; Renken et al., 1980; Snyder & Patterson, 1987). Family dynamics such as expressions of caring, trust, appropriate supervision and communication are stronger predictors of delinquency than the effects of family structure (Cernkovich & Giordano, 1987).

It often remains unclear whether the aberrant childrearing practices associated with parents of delinquent adolescents developed in response to raising a troubled child or are a reflection of the parent's fundamental attitudes toward the task of childrearing (Liska & Reed, 1985). This study examined mothers' overarching attitudes toward childrearing by administering a well established measure of parenting attitudes and beliefs to the mothers of delinquent and nondelinquent youth.

Life Events and Parental Child Rearing Attitudes

According to attachment theory, "the roles of the caregiver are first to be available and responsive as and when wanted and, secondly, to intervene judiciously should the child or older person who is being cared for be headed for trouble (Bowlby, 1977, p. 204)." A child may become insecurely attached if he or she experiences traumatic events to which the parents' response is inadequate. Parents who are less empathic toward their children or have unrealistic

expectations such as expecting that children will satisfy parental emotional needs are less likely to be appropriately responsive in the face of stressful events.

In an effort to summarize the multiple contributing factors to delinquent behavior, Lewis (1992) states:

> ...whatever increases impulsivity and irritability, engenders hypervigilance and paranoia, diminishes judgment and verbal competence, and curtails the ability to recognize one's own pain and the pain of others, also enhances the tendency toward violence. (p. 388)

It is no surprise that risk of delinquency increases in the presence of multiple family risk factors. Studies which examine life stressors as well as family dynamics find that both contribute to delinquency (Haapasalo & Tremblay, 1994; Kolvin et al., 1988; Renken et al., 1989). These studies do not comment, however, on how stressors and family dynamics may interact to promote delinquency.

Deutsch and Erickson (1989) suggested that parental responsiveness moderates the effect of traumatic life events on child adjustment. Maternal well-being and childrearing practices have been found to buffer the impact of economic and situational stressors on children's adjustment problems (Dodge, Pettit, & Bates, 1994; Longfellow & Bell, 1984). Parenting process variables have also been found to mediate the effect of economic poverty on delinquency (Sampson & Lamb, 1994).

This study proposed that maternal childrearing attitudes moderate the effect of life events on delinquency primarily by way of their influence on the development of object

representations. This investigation compared the relative contributions of stressful life events and maternal childrearing attitudes toward delinquency.

Perceptions of Parents as Object Representations

Conduct disordered and delinquent youth in treatment settings perceive their parents to be more controlling, rejecting, and inconsistent, and less caring and affectionate than their peers (Brand et al., 1990; Burbach et al., 1989; Cernkovich & Giordano, 1987). Delinquents report that their earliest memories of their parents involve instances of parental unavailability, inflicting physical injury, and responding with a lack of nurturing and protection (Davidow & Bruhn, 1990). Delinquent adolescents report a history of inconsistent parenting with parental figures unpredictably alternating between harsh, punitive physical punishment and lax enforcement of rules (Brand et al., 1990; Haapasalo & Tremblay, 1994; Van Voorhis et al., 1988). The perception of parental rejection is one of the strongest predictors of future delinquency in self-report studies (Simons et al., 1989). These responses may be an artifact of the security present in treatment settings where such affectively honest responses can be tolerated.

In untreated delinquent and conduct disordered youth, the continued need to defend against feelings toward the attachment object may lead to incongruent, idealized attitudes toward the attachment figure on measures which tap conscious attitudes. It is unclear whether the responses of delinquent youth incarcerated in a detention facility will reflect defensive, idealized attitudes toward attachment figures or the more affectively candid responses of youth in treatment facilities that have been the subject of prior investigations.

Hypotheses

1. Delinquent males have experienced a higher frequency of stressful life events in early childhood than nondelinquent males.

2. Delinquent males have experienced stressful life events in early childhood that are more traumatic than the stressful life events experienced by nondelinquent males.

3. Mothers of delinquent males have less empathic and more controlling attitudes toward childrearing than do mothers of nondelinquent males.

4. Compared to their nondelinquent peers, delinquent males have impaired object representations.

5. Maternal attitudes toward child rearing moderate the effect of early childhood life events upon internal object representations.

CHAPTER 2

Literature Review

This chapter presents an overview of attachment theory which provides the underlying framework for this study. The literature regarding the impact of stressful early childhood events and parental child rearing attitudes on the development of attachment relationships and the salience of attachment relationships to the formation of internal object representations is reviewed. The contribution of these factors to understanding the nature of delinquency is also reviewed.

An Attachment Theory Perspective on Juvenile Delinquency

Attachment theory emphasizes the salience of close relational bonds or "attachments" in the development of animals and humans. The primary function of attachments is to protect the young from danger by maintaining close proximity to a larger, stronger attachment figure who can fend off attacks from predators (Bowlby, 1958). For humans, the function of attachment relationships is to provide a perceived sense of security which includes an internal feeling of safety as well as an actual protection from physical harm (Sroufe & Waters, 1977). This sense of security is achieved by establishing and maintaining a relationship with a primary attachment figure, generally a mother.

Classical psychoanalytic theory proposes that the infant's attachment to his or her mother results from the experience of being fed by her (Freud, [1905] 1953). Attachment theory differs by postulating that the formation of attachments is a biologically determined, primary drive that develops independently of oral drives (Ainsworth, 1969). The infant is born with a variety of instinctual behaviors which facilitate the development of an attachment relationship between infant and mother. Conversely, the mother is also biologically primed to respond to these behaviors in ways that enhance the relationship. The attachment systems of mother and infant are essential for normal emotional development (Kestenbaum, 1984).

The primary attachment relationship forms the template for future interpersonal relationships. This early mother-child relationship organizes the child's future behavior towards others (Ainsworth, 1985). Attachment theory proposes that this organization is based upon real experiences, rather than intrapsychic forces (Bowlby, 1988). The behavioral organization of interpersonal relationships is fairly stable over time (Sroufe & Waters, 1977).

The child's relationship behavior consists of two separate, but interconnected systems, attachment behaviors and exploratory behaviors (Ainsworth, 1964; Main & Solomon, 1986). When the child perceives a need for closer proximity to the mother, attachment behaviors are activated. Once the child regains a sense of security, the child is again free to engage in exploratory behaviors. An harmonious balance between attachment behaviors and exploratory behaviors is the essence of a secure attachment. An insecure attachment occurs when one set of behaviors is constantly activated to the exclusion of the other, or when neither attachment nor exploratory behaviors are successfully engaged.

The secure attachment pattern is a precursor to close interpersonal relationships and satisfactory school adjustment, as well as a component of emotional health (Sroufe, 1982). Infants whose mothers respond sensitively to their crying and other attachment behaviors are more likely to develop secure attachments than infants whose mothers are less responsive (Stayton & Ainsworth, 1973). The mothers of securely attached infants hold their infants more frequently and warmly than the mothers of other infants (Ainsworth, 1979; Main & Stadtman, 1981). During brief separations, securely attached infants are often highly distressed; however, they are easily comforted by their mothers upon reunion (Ainsworth, 1979; Stayton & Ainsworth, 1973), and are able to use contact with their mothers for "emotional refueling" (Mahler, 1979).

Developmentally, children who are securely attached in infancy are more cooperative and less aggressive as one-year-olds (Ainsworth, 1979). In preschool, they are more competent and empathic in peer interactions, more curious and persistent in problem solving, and better able to elicit and accept help from others (Ainsworth, 1979; Sroufe, 1982; Sroufe & Waters, 1977). This pattern of interpersonal competence is found in securely attached adolescents and adults and is associated with various measures of mental health and well being (Kobak & Sceery, 1988; Rice, 1990).

Insecurely attached infants have mothers who ignore, reject, or otherwise respond inadequately to their needs, particularly crying (Ainsworth, 1979; Stayton & Ainsworth, 1973). These mothers often reject or avoid physical contact with their infants (Ainsworth, 1979; Tracy & Ainsworth, 1981). Insecurely attached infants develop defensive strategies which

allow them to maintain proximity to their mother, either by suppressing attachment behaviors or suppressing exploratory behaviors (Main & Solomon, 1986).

Insecure attachments are associated with a multitude of subsequent social, emotional and academic difficulties. Insecurely attached infants develop aggressive non-compliant behavior which continues into childhood (Ainsworth, 1979; Biringen, 1994). Preschool children previously identified as insecurely attached in infancy show significant behavioral aberrations, poor coping and problem-solving skills, and difficulties interacting with peers and adults (Sroufe, 1982). Insecurely attached first grade boys are less well-liked and have more behavioral problems than securely attached boys (Cohn, 1990). Within this group, infants who tend to avoid maternal interaction are subsequently found to lack empathy, show more negative affect and aggressive antisocial behavior and engage in hostile or mean interactions with peers (Sroufe, 1982). A similar longitudinal study finds that children who avoid close interpersonal relationships at 49 months old have the most severe aggressive and oppositional behavior problems in elementary school (Crowell, O'Connor, Wollmers, Sprafkin, & Rao, 1991).

The attachment patterns which develop in infancy continue to have a profound impact upon the quality of subsequent interpersonal relationships throughout the lifespan (Ainsworth, 1989). They become reenacted with others even in the absence of the original attachment figure. The maintenance of these patterns is dependent upon the internalization of a mental image of the original maternal relationship (Ainsworth, 1969). These "internal working models" of the mother and self are based upon the earlier experiences of being parented (Bowlby, 1988). Internal working models are cognitive structures based upon actual

experience which exert a persistent, unconscious influence of expectations, fears, and wishes regarding interpersonal relationships (Bowlby, 1988).

From Working Models to Object Representations

Several attempts have been made recently to integrate attachment theory and object relations theory, in particular the concepts of internal working models and object representations (Levine & Tuber, 1993; Main, Kaplan, & Cassidy, 1985). Attachment behaviors are the external, observable manifestations of cognitive internal working models (Main & Solomon, 1986) which are similar in structure and function to object representations (Bowlby, 1988; Levine & Tuber, 1993; Main, Kaplan, & Cassidy, 1985). The development of whole object representations depends upon the internalization of a maternal image which reflects consistent, predictable responsiveness of the mother (Horner, 1984; 1991). Without "good enough mothering" (Winnicott, 1958), object representations cannot be adequately formed or internalized (Horner, 1984, 1991). This, in turn, results in what Bowlby has referred to as an "affectionless character" (Bowlby, 1947). This "inner world of self-other relationships" (Pine, 1990, p. 102) becomes the blueprint for future relationships.

A lack of adequately internalized object representations interferes with the development of appropriate interpersonal relationships and may lead to the development of character disturbances such as the inability to follow rules, lack of capacity to experience guilt, and indiscriminate friendliness with an inordinate craving for affection with no ability to form lasting relationships (Horner, 1984, 1991). Individuals who have internalized poorly formed object representations tend to see others as fluid and interchangeable, or malevolent and cold, and to

view the "world as lifeless, alien and unpredictable, as stark and static or fluid and formless (Levine & Tuber, 1993, p. 72)." Impaired object representations have been found in many clinical populations, including adolescents with conduct disorders, (Weber, 1990; Weber, Meloy & Gacono, 1992); adults with psychopathic tendencies (Gacono, 1988; Gacono & Meloy, 1991; Meloy, 1988); and individuals with borderline personality disorder (Kwawer, 1979, 1980) and schizophrenic disorders (Horner, 1984).

Both parental and child factors contribute to the internalization of object representations (Bowlby, 1988; Call, 1984). However, parental factors play the more powerful role in shaping the quality of the child's object representations (Goldberg, 1988). Events which lead to parental absence or stress can interfere with a parent's ability to respond adequately to the child's needs (Deutsch & Erickson, 1989), and therefore impact the child's object representations. Furthermore, situations which induce fear, fatigue, or illness in the child (Bowlby, 1988) may make the child more difficult to comfort, and again may impede a parent from being appropriately responsive. Traumatic events, particularly early separations between parents and children, actual or psychological, can have devastating effects on the development of appropriate object representations (Bowlby, 1977a, 1977b; Horner, 1984). Thus, childhood trauma and parental childrearing attitudes both play significant roles in the child's internalization of object representations.

An early study of 10- to 14-year-olds compared children raised in an institution during infancy to those raised in a foster home from infancy (Goldfarb, 1944). The study concluded that institutionalized children were more emotionally immature and less able to enter into interpersonal relationships. This difference was attributed to the "absence of a warm,

consistent, continuous, day-to-day contact with an adult in the role of a parenting person" in the lives of institutionalized children (Goldfarb, 1944, p.446).

Pierce (1978) studied 52 children ages 6 to 17 who experienced the loss of a parent prior to age seven. This study concluded that children who experienced this loss (due mostly to divorce or military service) prior to five years of age were more likely to be highly guarded and defended against dependency needs. This suggests that these youngsters formed representations of others as unavailable to meet their needs and therefore tended to be reluctant to become involved in close interpersonal relationships.

Another significant impact of a child's object representations is found in cases of early maltreatment. A longitudinal study of "at-risk children" finds that children who had been abused or neglected in early childhood had greater negative expectations of relationships (McCrone, Egeland, Kalkoske, & Carlson, 1994). They have "core models of themselves as unworthy and of others as unavailable, rejecting or exploitative (McCrone et al., 1994, p. 116)." In a study of 43 twelve-year-olds receiving Aid To Families with Dependent Children, 82% of the maltreated group manifested a disorganized attachment pattern, compared to 19% of the non-maltreated group (Carlson, Cicchetti, Barnett, & Braunwald, 1989). This suggests that these children had been unable to form consistent, whole object representations which resulted in their disorganized, inconsistent approach to others.

Childhood trauma also affects the development of object representations. Since object representations are based upon the accumulation of real life experiences (Pine, 1990), painful, negative, or otherwise traumatic experiences in young childhood adversely impact upon this process (Horner, 1984). A sample of 44 children who had been classified as insecurely

attached at 12 months showed that those with disorganized attachment behavior patterns, and therefore the most impaired object representations, experienced more life stressors including financial problems, having a household member with a long-term illness, or residing in unsuitable living conditions. Trauma and abuse both interfere with the capacity to engage in close relationships. A study of 63 children and adolescents who had experienced physical abuse, sexual assault, accidents requiring medical attention or parental loss through violence all showed a similar pattern of anger and inability to accept or seek closeness with others (Holaday, Armsworth, Swank, & Vincent, 1992).

Delinquency and Traumatic Life Events

Classifications in delinquency reflect "official" delinquents, that is, those who have been officially charged with committing a delinquent act, and "self-reported" delinquents, referring to those who admit committing a delinquent act but may not have come to the attention of the legal system. Delinquents, both self-reported and official, experience more stressful life events, especially in early childhood. A multitude of life events have been associated with increased likelihood of involvement in delinquent behavior. These include broken homes, marital disharmony, parental psychopathology (Gove & Crutchfield, 1982), parental illness (Kolvin et al., 1988), and the presence of criminal parents or siblings (Loeber & Dishion, 1983). Bowlby's study of young thieves (Bowlby, 1947) indicated that they experienced unusually frequent and prolonged separations from their mothers.

Kolvin et al. (1988) conducted a longitudinal study of 847 children born in 1947. They examined the impact of social and family stressors on the age of first arrest for delinquent

behavior. Young delinquents were likely to be arrested more frequently and become more involved in more serious criminal behavior because they have longer criminal careers. Males whose first arrest occurred prior to age 15 had significantly more early childhood experiences of parental marital instability, parental illness, poor physical surroundings, social dependency, overcrowding, and inadequate mothering, significantly more often than males first arrested after 15 years old.

Sandler and Block (1979) used the Coddington Childhood Life Events Scale (Coddington, 1972a, 1972b; Heisel, Ream, Raitz, Rappaport, & Coddington, 1973) to differentiate maladapted from non-maladapted inner-city youngsters. Maladapted children were found to have experienced significantly more life changes in the previous year and significantly more negative life events than their well-functioning peers.

Differences in the number of traumatic life events experienced in early childhood, as measured by the Coddington scales, reliably classified 82.5% of socialized and undersocialized delinquents with conduct disorder (Deutsch & Erickson, 1989). Traumatic life events were more predictive of undersocialized conduct disorder than changes in caregivers or child's perception of parent-child relationships.

Parenting Attitudes and Delinquency

Delinquency has frequently been associated with maladaptive parenting patterns, including physical abuse, inconsistent discipline, harsh physical punishment and lax enforcement of rules (DiLalla, Mitchell, Arthur, & Pagliocca, 1988; Feehan, McGee, Stanton, & Silva, 1991; Gove & Crutchfield, 1982; Lewis, Lovely, Yeager, & Femina, 1989; Lewis, Shanock,

Pincus, & Glaser, 1980). It has also been associated with negative parental attitudes toward childrearing such as parental rejection of the child (Gove & Crutchfield, 1982).

Although delinquency has often been associated with child maltreatment, few studies actually examine the parenting attitudes of parents with delinquent children. Much of what appears to be known and accepted as common knowledge about delinquents' parents is derived from youths' reports about their parents. While this may be a valuable source of information regarding delinquents' object representations, it remains unclear what light these studies shed on actual parental attitudes toward childrearing.

Adult antisocial and criminal behavior have been associated with a childhood history of abuse and neglect. In an examination of 908 court records of abuse and neglect, as well as subsequent adult arrests, Widom found that males who were abused or neglected were significantly more likely to be arrested for any non-traffic offense and for any violent offense than non-abused, matched controls (Widom, 1989a, 1989b). In a further study, Widom concluded that childhood abuse or neglect significantly predicted the number of antisocial personality symptoms in adulthood, even when demographic variables and criminal history were controlled (Luntz & Widom, 1994).

Farrington (1978) followed 411 males from the age of 8 until 22 years old. This study found that aggressiveness at ages 8 - 10 was predictive of violent delinquency in young adulthood. Harsh parental discipline at age 8 was the strongest predictive factor of subsequent violent delinquency, followed by separations from parents and presence of a criminally involved parent. In fact, 61.5% of the violent delinquents had experienced harsh parenting compared to only 27.1% of the nondelinquents.

It is not only extreme physical abuse that is related to delinquency. Lesser degrees of inconsistent or inadequate parenting contribute to delinquent behavior as well. In a study of childrearing attitudes of parents of 620 thirteen-year-olds from Chicago (Gove & Crutchfield, 1982), the strongest predictor of delinquency was the parents' feelings toward and perceptions of the child. Parents who had more negative feelings toward their children provided them with less supervision, and were more likely to have delinquent children. Harsh physical punishment and the presence of a single parent family were also more predictive of delinquency, but not as strongly as negative parental attitudes. This implies that it is not solely the physical pain or violence associated with abuse that contributes to delinquency. The negative parental attitudes conveyed with abusive behavior may, in fact, cause the most damage.

This proposition that negative parental attitudes may impact as heavily as harsh, punitive or abusive behavior appears to be supported by a longitudinal study of 849 mothers and their children from age 7 until 15 years old (Feehan, McGee, Stanton, & Silva, 1991). Mothers in this study were rated on two dimensions of parenting: strict versus lax, and consistent versus inconsistent. Counter to the author's original hypothesis, strictness was not significantly related to subsequent externalizing behaviors, but inconsistent parenting was. This is consistent with what Furman and Furman (1984) label "intermittent decathexis", a childrearing pattern in which the parent alternates between intense focus on the child, usually on his or her misbehavior, and sudden, unpredictable disinterest in the child to the point of being unaware of the child's whereabouts or activities. Children who experience this type of parenting are intensely angry, anxious and mistrustful.

Several studies have examined the contribution of multiple risk factors to delinquent behavior. Renkin, Egeland, Marvinney, Mangelsdorf, and Sroufe (1989) have proposed three correlates of aggressive antisocial behavior: 1) hostile, abusive, or punitive parenting, 2) high life stress, and 3) history of avoidant attachment in infancy. These factors are theorized to "interact in such a way as to distort the child's normal tendency to seek emotional closeness with others during times of stress or arousal (Renken et al., 1989)." Their study included 191 third grade children and their mothers. The children were part of an ongoing longitudinal study of high-risk children. They concluded that avoidant attachment history, harsh parental treatment, and stressful life circumstances predicted aggression in boys, accounting for a third of the total variance in aggression.

The most extensive studies of factors contributing to delinquency have been conducted by Rolf Loeber (Loeber & Dishion, 1983; Loeber & Stouthamer-Loeber, 1986). Not surprisingly, one of the stronger predictors of adolescent delinquency is an earlier history of antisocial, aggressive or problematic behavior in childhood (Loeber & Dishion, 1983). In this meta-analysis, family management techniques were the most predictive factors of delinquent behavior, increasing the accuracy rate of predicting delinquency by an average effect size of .50 (Loeber & Dishion, 1983). In a subsequent meta-analysis of longitudinal studies, lack of parental supervision, parental rejection and conflicted parent-child relationship were the strongest predictors of delinquency (Loeber & Stouthamer-Loeber, 1986). Parents' marital relationship and history of criminality were moderate predictors. Weaker, but significant predictors included parental discipline practices and stressful family factors such as parental

absence or illness. In both of these studies, socioeconomic status was found to be a poor predictor of delinquency when these other factors were involved.

In a further examination of the relationship between socioeconomic status and childhood conduct problems, Dodge, Pettit, and Bates (1994) followed 513 children from preschool through third grade. Socioeconomic status was predictive of conduct problems at all ages; the strength of this relationship intensified over time. That is, children in the lowest socioeconomic group were rated as increasingly more aggressive by teachers and peers as they got older. The effect of socioeconomic status upon aggression was mediated by eight social and familial factors. These included: harsh parental discipline, lack of maternal warmth, aggressive adult role models, maternal endorsement of aggressive values, maternal lack of social support, unstable peer group, lack of cognitive stimulation, and life stressors such as divorce, death, or legal problems. These factors accounted for 57% of the effect of socioeconomic status on teacher-rated conduct problems, and 50% of the variance in peer-nominated aggression scores. The authors concluded that maternal childrearing attitudes and stressful life events exerted a strong influence on aggressive behaviors from a very young age. They noted that these early-onset behavior problems are the ones most likely to persist throughout life (Dodge et al., 1994).

In a reanalysis of an early study on delinquency, Sampson and Laub (1994) concluded that harsh parental discipline, lack of supervision, and weak parent-child attachment mediated the effects of poverty, life stress, and prior antisocial behavior on adolescent delinquency. The reexamination of 500 delinquent and 500 nondelinquent males from low income Boston neighborhoods shows that "informal social controls," consisting of the attachment, supervision,

and discipline variables, exerted a large, significant negative effect on delinquency and that 68% of the effect of family structural variables and "parent/child disposition" (a composite of parental deviance, instability and child antisocial behavior) on delinquency was mediated by informal social controls.

Object Representations of Delinquents

Juvenile delinquents, whose behavior is marked by aggression, hostility, and poor interpersonal relations, have significantly impaired object representations. An early study of adolescents who committed homicide found these youngsters expected to be harmed by people in every social interaction, and their "potential for forming fulfilling interpersonal relationships seemed to be practically nil (King, 1976, p. 698)." These youngsters depersonalize and fail to differentiate among people (King, 1976), another indication of undifferentiated internal object representations. In a more formal study of adolescents who commit homicide, 55 adolescents who committed homicide were compared to 55 non-violent delinquents (Greco & Cornell, 1992). Those adolescents who committed a homicide in the course of committing another crime evidenced greater disturbance in object representations than delinquents who committed homicide in the course of an interpersonal conflict and non-violent delinquents. However, all three groups showed decreased interest in interpersonal relations compared to norms established for non-delinquent adolescents (Exner, 1986).

When 71 delinquents and 71 nondelinquents were asked for their earliest memory, delinquents' memories reflected self-representations of weakness, failure, isolation, and victimization (Davidow & Bruhn, 1990). They reported fewer memories involving another

person. When memories included another, the object representations contained perceptions of others as untrustworthy, hurtful, frustrating, and unreliable. The study concluded that for delinquents "there do not seem to be any internalized object relations from which to draw support (Davidow & Bruhn, 1990, pp. 610 - 611)."

An extensive study of 100 conduct disordered adolescents indicated a disturbed object relational world with immature personality organization (Gacono & Meloy, 1994). The predominance of part-objects indicated that for these adolescents, "the integration of good and bad split objects into whole, integrated objects has not occurred," which is both a result of and perpetuates splitting as a defense (p. 67). Furthermore, conduct disordered males gave at least one response revealing a primitive mode of relating. The distribution of types of primitive relating responses was virtually identical to that of the adult antisocial personality disordered group they sampled.

Delinquency and Perceptions of Parent-Child Relationships

One indication of internal object representations is how an individual perceives others. Delinquent youngsters perceive their parents differently than do nondelinquent youngsters. They report perceiving their parents as inconsistent, affectionless, controlling, and less emotionally available (Brand et al., 1990; Howard, 1981; Mak, 1990, 1991; Rey & Plapp, 1990; Van Voorhis, Collen, Mathers, & Garner, 1988).

Delinquent youth, both self-reported and official, reported feeling less bonded to their parents than their peers (Mak, 1990, 1991). A comparison of adolescent male first time offenders and persistent offenders showed that persistent offenders reported their mothers were

significantly less caring (Howard, 1981). Conduct disordered and oppositional disordered youngsters rated their parents as optimally caring only half as frequently as a control group (Rey & Plapp, 1990). Both groups rated their parents as more rejecting and controlling than other youngsters.

Van Voorhis et al. (1988) asked 152 white, rural high school students between 14 and 19 years old about their history of delinquent behaviors, family quality and family structure. The family quality dimension was comprised of subscales measuring child abuse, affection, conflict, supervision and overall home quality. Affection and supervision were the two subscales most predictive of delinquency. Overall home quality was a significant predictor of all categories of delinquency except for violent delinquency. Gender was the strongest predictor of violent crime, strongly outweighing all other variables. If results for males and females had been analyzed separately, it is likely that many of the family quality subscales would have significantly predicted delinquency.

Fifty-five adolescents in a residential school for behavior-disordered youngsters were administered a parental consistency questionnaire (Brand et al., 1990). Youngsters who showed signs of more severe emotional maladjustment or immature emotional development perceived their parents as treating them more inconsistently. These results may reflect actual parenting patterns, but they may also reflect the part objects and splitting referred to by Gacono and Meloy (1994).

A study of 793 Australian teenagers provides further clarification on the effects of adolescents' perceptions on delinquent behavior (Mak, 1990, 1991). Self-reported levels of delinquency decreased as parental bonding and empathy increased. Although this study was

not based upon an object relations view of delinquency, the results nonetheless support this theoretical stance. Impaired object representations, which are affected by parental attachment and decrease the capacity for empathy (Horner, 1984; Meloy, 1988) are a significant factor in the causation of delinquent behavior.

Several studies have found that delinquent youngsters perceive their parents to be more rejecting and punitive and their families as experiencing more conflict compared to nondelinquents. In a study of 244 adolescents from clinical and non-clinical settings, perceived parental rejection was significantly correlated with self-reported delinquency, even after controlling for other family variables (Simons, Robertson, & Downs, 1989). Furthermore, using a LISREL model, the authors concluded "that the predominant causal flow is from parental rejection to adolescent deviance rather than from deviance to rejection (p. 307)."

Similar findings are reported in a larger study of 942 adolescents (Cernkovich & Giordano, 1987). This study surveyed adolescents on their perceptions of such parenting variables as supervision, identity support, caring and trust, and intimate communication. As expected, self-reported delinquents perceived lower levels of caring and trust, supervision, support and communication. Even when such variables as gender, ethnicity, and household structure were controlled, internal family dynamics were significant predictors of delinquency.

Summary

Research indicates that the development of internal object representations can be impaired by inadequate parenting and traumatic events in early childhood. The research on delinquency suggests that, compared to nondelinquents, delinquents have experienced more

early childhood trauma and more harsh, inconsistent or otherwise suboptimal parenting. Delinquents, as a group, also have fewer internalized object representations relative to their non-delinquent peers. The representations delinquents do have reflect a view of others as cold, distant and unresponsive. This can be seen in the differences between delinquents' and nondelinquents' perceptions of parent-child relationships. This study proposed that differences in object representations between delinquent and nondelinquent adolescent males could be attributed to differences in early childhood trauma and maternal childrearing attitudes. Furthermore, it proposed that maternal childrearing attitudes would moderate the effect of childhood trauma on object representations.

CHAPTER 3

Methodology

This chapter describes the participants and measures employed in this study, and discusses the methodology used for test administration and data collection. In addition, this chapter describes the research hypotheses and statistical tests that were part of this investigation.

Participants

The study included 60 boys, ages 13-17, and their biological mothers. Among the boys, the sample consisted of equal numbers of delinquent and nondelinquent adolescents. The delinquent sample consisted of 30 boys detained in a secure detention facility. The detention center is a county-operated facility located in a moderate sized midwestern community. Youth are detained in this facility on petitions stemming from acts that would be considered felonies if committed by an adult, thus constituting "serious delinquency." Participants for the delinquent sample were recruited during two weekly visitation times at the detention facility.

The nondelinquent comparison group consisted of 30 boys who resided in the same school district that serves the detention center. Comparison group boys and their biological mothers were recruited through local high schools, middle schools and community recreational

programs. Comparison group boys needed to have passing grades and no history of official delinquency or disciplinary referrals to the school district's Office of Student Services which handles serious or repeated infractions of school policy.

An attempt was made to match boys from the two groups with regard to age, race, receptive vocabulary, and socioeconomic status. Socioeconomic status was measured by mother's education level and the boy's participation in the federally subsidized school lunch program.

Boys were excluded from the study if any of the following criteria were met: 1) their receptive vocabulary scores were less than 70 or greater than 130, 2) they suffered from psychosis or organic impairment, as assessed by the detention facility psychologist or school officials, 3) they were facing waiver to the adult court system, or 4) they had no contact with their biological mothers. The first two exclusionary criteria were established because diminished as well as exceptional verbal intelligence and severe psychopathology could have spurious effects upon the psychometric measures used in this study (Exner, 1986). Those facing waiver proceedings were excluded because some of the same measures employed in this study are used in court-ordered psychological evaluations for waiver proceedings and, therefore, might have been subject to subpoena or otherwise interfered with court proceedings. Boys who had no contact with their biological mothers were excluded because this study requires biological mothers to complete measures of early life events and maternal child-rearing attitudes.

Procedure

Mothers of delinquent boys were approached by the investigator before regularly scheduled visitation hours at the detention facility and asked to participate and to allow their sons to participate in a study on "factors that affect teenage behavior." They were informed that participation was voluntary and would not affect in any way any pending legal proceedings or the treatment their sons receive while in detention. Mothers were informed that participation in the study would require about 30 minutes of their time and about 90 minutes of their sons' time, and that all responses would be treated confidentially. Upon agreeing to participate, mothers were asked to sign an informed consent form reiterating the above information. Mothers were given the measures after the conclusion of visitation. In this way, the length of visitation was neither prolonged nor curtailed as a result of a mother's willingness or refusal to participate.

Boys and their biological mothers were recruited for the comparison group with the assistance of school principals and local recreation club leaders in accordance with local school district and recreation club policies. Mothers in the comparison group were provided with the same information as mothers of delinquent boys. They were also asked to sign and return an informed consent form. Upon receipt of the consent form, this investigator arranged to administer the measures to mothers at a mutually convenient time and location. Arrangements included home visits, meeting at the school or at the recreation center.

Boys whose mothers consented to participate were asked to participate in the study by an advanced doctoral student in clinical psychology who administered the measures to them. The investigation was described as a study on "things that affect how teenagers act" which

would take about 90 minutes to complete. Boys were verbally informed that participation was voluntary, that they could stop at any time, and that their responses would be kept confidential. Delinquent boys were told that their participation or refusal to participate would not influence their legal proceedings, length of detention, or level of privileges/restrictions during their detention. Because of their status as incarcerated minors, particular care was taken to insure they understood that participation was voluntary and that their consent could be revoked. Comparison group boys were informed that participation would not affect their grades in school or their participation in recreation club activities. After verbally underscoring the terms of participation, boys in both groups were asked to verbally assent to participate. Copies of the parental consent form and youth assent form can be found in Appendix A.

After informed consent was obtained, this investigator administered to mothers the Children's Life Events Scale - Preschool version (Coddington, 1972a, 1972b, 1984), the Adult-Adolescent Parenting Inventory, Form B (Bavolek, 1984) and a demographic survey designed for this study. Boys were administered the Peabody Picture Vocabulary Test - Revised, Form L (Dunn & Dunn, 1981), Inventory of Parent-Peer Attachment (Armsden & Greenberg, 1987) and Rorschach Inkblot Test (Rorschach, 1942) by an advanced doctoral student in clinical psychology. Measures were given in the same order to all participants.

Most boys were tested during the course of the school day, necessitating that they miss approximately 60-90 minutes of class time. This may have served as an unintentional incentive for participation, but was also the most practical means for administering the measures. Boys who declined to participate returned to their scheduled classes.

To avoid examiner bias in eliciting desired responses to the Rorschach test, testing of all boys was conducted by an advanced doctoral student in clinical psychology who had completed coursework on the administration and scoring of the Rorschach Inkblot Test using the Comprehensive Scoring System (Exner, 1986) and who desired additional experience administering the Rorschach. The examiner was uninformed as to the hypotheses under consideration, but was not blind as to group membership. The Peabody Picture Vocabulary Test, Children's Life Events Scale, Adult-Adolescent Parenting Inventory, and Inventory of Parent and Peer Attachment were scored by this investigator.

Although this study relied, in part, upon mothers' retrospective accounts of events occurring during their youngster's early childhood, it was believed that mothers would be able to respond more accurately than the youngsters themselves. This study also assumed that maternal child-rearing attitudes would have remained fairly consistent over time. It further assumed that these attitudes preceded, rather than resulted from, their sons' delinquent involvement. This assumption is supported by the cross-lagged studies which report that parental attitudes precede involvement in delinquency (Simons, Robertson, & Downs, 1989).

Since participants could not be randomly assigned to delinquent or comparison groups, this study used a quasi-experimental design (Cook & Campbell, 1979). An attempt was made to match participants as closely as possible on those variables which might affect the results: age, race, socioeconomic status and verbal intelligence.

Results were kept confidential by assigning a code number to subjects and removing subjects' names from all measures. All data were stored in a locked file. Group information and statistics are reported in aggregated form so that individual responses cannot be identified.

Measures

Mothers completed a brief demographic form, which can be found in Appendix B, as well as the Children's Life Events Scale - Preschool Version (Coddington, 1972a, 1972b,) and the Adult-Adolescent Parenting Inventory (Bavolek, 1984). Boys completed the Peabody Picture Vocabulary Test - Revised (Dunn & Dunn, 1981), Inventory of Parent-Peer Attachment (Armsden & Greenberg, 1987) and the Rorschach Inkblot Test (Rorschach, 1942). The measures, which were administered in the above order to each participant, will now be described more fully.

Children's Life Events Scale

The Children's Life Events Scales (Coddington, 1972a; 1972b; 1984) are a series of scales designed to identify life events requiring the individual to readjust and adapt to a substantial change in life circumstances. Separate forms are designed for preschool, elementary school, junior high school and senior high school populations. The preschool form was used because this study hypothesized that early childhood events have the greatest impact upon the development of internal object representations.

The preschool form lists 30 events that may be experienced by children under five years. The list ranges from fairly common events (i. e., birth of a sibling) to fairly uncommon events (i. e., death of a parent). Events have a preassigned rating on a scale of 0-100 based upon the amount of stress they are estimated to cause. The stress estimations were developed by surveying pediatricians, mental health workers and teachers as to how much adaptation would be required for a child to cope successfully with a given event, with birth of a sibling

being used as a standard (Coddington, 1972a). Rank order correlations of interrater agreement ranged from .85-.97 (Coddington, 1972a). The interrater correlation between mental health professionals with 10-19 years direct child care experience and those with over 20 years experience was .94 (Coddington, 1972a).

The Childhood Life Events Scales were originally developed to determine whether medically ill children experienced more stressful events prior to their illness than healthy children. Subsequent studies (Heisel, Ream, Raitz, Rappapport, & Coddington, 1973) found that children with physical health problems and children with mental health problems both experienced significantly more stressful life events in the twelve months preceding their difficulties than did their healthy peers.

Deutsch and Erickson (1989) used the Children's Life Events Scale with delinquent youngsters. Undersocialized conduct disordered youth scored significantly higher than socialized conduct disordered youth, experiencing both more frequent and more traumatic stressful life events. No study thus far has compared delinquent youth to nondelinquent youth on this measure.

The scale was scored according to: 1) the sum total of events experienced, referred to as "frequency" of stressful life events, and 2) the standardized weighted stress value of the events experienced (Coddington, 1972a), referred to as "severity" of stressful events. A copy of this scale can be found in Appendix C.

Adult-Adolescent Parenting Inventory (AAPI)

The Adult-Adolescent Parenting Inventory (AAPI; Bavolek, 1984) measures differences in child-rearing attitudes and beliefs between abusive and non-abusive parents. The 32 items are scored on a five-point Likert scale ranging from (1) = Strongly Disagree to (5) = Strongly Agree. They comprise four subscales associated with parenting: parental expectations, parental empathy, value of physical punishment, and parent-child role reversal.

The Parental Expectations subscale measures the parents' perceptions of the skills and abilities of their children. It includes such items as, "Children should not be expected to talk before the age of one year." High scores indicate a realistic understanding of children and their developmental limitations, low scores indicate a lack of understanding of appropriate development. The Empathy subscale measures parents' awareness of, and willingness to respond to, the emotional needs of their children. It consists of items such as, "Children will quit crying faster if they are ignored." High scores suggest sensitivity to children's needs. Low scores are often associated with parents who fear spoiling their children. The Physical Punishment subscale measures parents' belief in the acceptability of corporal punishment and consists of items such as, "Children should always be spanked when they misbehave." High scores indicate a disapproval of physical punishment and advocacy of alternative means of discipline. Low scores indicate an endorsement of physical punishment for responding to children's misbehavior. The Role Reversal subscale measures the clarity of parent-child roles within the family. It includes such items as, "Young children should try to make their parent's life more pleasurable." High scores indicate clear role distinctions between parents and children with parents assuming the caregiver role. Low scores indicate more diffuse parent-

child roles with the child having significant caretaking responsibilities including assuring the happiness and comfort of parents (Bavolek, 1984).

Separate norms for each subscale are available for abusive and non-abusive parents and adolescents. Norms are provided for males and females of several racial groups. An individual's score can be compared to abusive and non-abusive individuals of the same gender and ethnicity.

Bavolek (1984) established construct validity through item-construct correlations (range = .53 - .75), inter-item correlation (range = .17 - .55), and factor analysis (range = .45 - .68). Internal consistency reliability coefficients were reported to range from .75 (Parental Expectations) to .86 (Physical Punishment) (Bavolek, 1984). Total test-retest reliability for all items is .76 (range = .39 - .89) over a one-week time span (Bavolek, 1984).

Reliability of the AAPI was established with the sample in this investigation for the entire scale of 32 items (Cronbach alpha = .85). Reliability of AAPI subscales for this sample were .44 (Parental Expectations), .74 (Empathy), .64 (Physical Punishment), and .80 (Role Reversal). Scores on all items were summed for each mother to generate a single "childrearing attitude" score.

Rorschach Inkblot Test

The Exner Comprehensive System for scoring and interpreting the Rorschach inkblots (Exner, 1986) is a highly regarded instrument for assessing internalized object representations (Blatt & Lerner, 1983; Blatt, Tuber, & Auerbach, 1990; Fritsch & Holmstrom, 1990; Kwawer, 1979; 1980). A recent review by Fishler, Sperling, and Carr (1990) concluded that the

Rorschach Inkblot Test is the most reliable indicator of internalized object representations. It may be especially useful with delinquent youngsters who typically use massive defensive operations to maintain positive images of caregivers (Willock, 1986) and are therefore unlikely to respond candidly to self-report measures of interpersonal relationships or parent-child relations.

Delinquent youth often have impaired object representations and do not readily obtain gratification from close interpersonal relationships compared to nondelinquents. They would be expected to give fewer responses containing human figures, human movement or texture.

The human content, human movement and texture determinants are among the most well established of all the determinants in Exner's scoring system. Test-retest reliability coefficients for a non-clinical sample of eight-year-olds over a period of eight years were .54 for human movement responses and .43 for texture responses (Exner, Thomas, & Mason, 1985). Correlation coefficients established with this sample between ages twelve and sixteen reached .70 for human movement and .77 for texture responses, indicating that these determinants are stable throughout adolescence.

As only the human content, human movement and texture responses to the Rorschach were used in the present study, these responses will be discussed more fully.

Human Content (H) Responses.

These are responses whose content includes a pure human form (Exner, 1986). Responses involving pure human content provide an indication of the individual's interest in

people and potential for social relations. The absence of human content "appears to signal a marked lack of interest in, and/or detachment from people (Exner, 1986, p. 401)."

The lack of at least one pure human content response is virtually non-existent above age twelve (Exner, 1990). Profiles containing no pure human content responses are extremely rare among adolescents, occurring in only 0-1% of the records of 12- to 16-year-olds, but appearing in 16% of conduct-disordered male adolescents (Gacono & Meloy, 1994) and 13% of the records of character disordered (largely anti-social and borderline personality disordered) adults (Exner, 1990). The average number of human content responses for a non-clinical sample of 13- to 16-year-olds ranges from 3.00-3.42 (S.D. = 1.71-1.96), however, for conduct disordered adolescents, the average falls to 2.32 (S.D. = 1.95) (Gacono & Meloy, 1994).

Klopfer, Ainsworth, Klopfer and Holt (1954) related human content responses to a capacity for empathic relationships with other human beings. Human content responses reflect internalized images of others which "bear the imprint of [the individual's] formative interpersonal history, and reveal something of his ingrained relationship predisposition (Mayman, 1967, p. 18)." A lack of human content responses is indicative of "some severe disturbance of [the individual's] relationship to internalized good objects (Mayman, 1967, p. 19)."

Human Movement (M) Responses.

Human movement responses reflect cognitive functions including social skills and interpersonal interests (Exner, 1986). Mayman (1967) has stated that the number of M responses "may be an index of the subject's capacity to form empathic interpersonal

relationships (p. 21)." Decreased M has been associated with an absence of empathic responsiveness (Stark, 1966). In a non-clinical sample of 13- to 16-year-olds, the mean number of M responses ranged from 4.06-4.35 (S.D. = 2.13-2.24) (Exner, 1990). For conduct disordered adolescents, the mean was only 3.30 (S.D. = 2.43) (Gacono & Meloy, 1994).

Blatt and Lerner (1983) suggested a relationship between human movement responses and the quality of internal object representations. Youngsters with few M responses had poorer relationships with their mothers than those with a high frequency of M responses (Bene, 1975). Delinquent youngsters would be expected to have fewer M responses than non-delinquent youngsters.

Texture (T, TF, FT) Responses.

Exner (1986) interprets T as an indicator of dependency needs. The absence of at least one texture response is a rare occurrence, appearing in only 18% of the records of 13 year olds, decreasing to 6% of the records of 16 year olds (Exner, 1990). It is found to occur, however, in 87% of the records of conduct disordered adolescents (Gacono & Meloy, 1994). The mean number of texture responses for adolescents ranges from .97-1.06 (S.D. = .48-.52) (Exner, 1990). The mean for a sample of conduct disordered adolescents was 0.17 (S.D. = 0.45) (Gacono & Meloy, 1994).

Klopfer et al.(1954) suggested that T responses represent an individual's basic expectation of affection to be received from the outside world. A lack of any T responses (often referred to as a "T-less protocol") has been associated with marked deprivation in early

relationships, impaired capacity for affectional relationships and denial or repression of the need for affection (Exner, 1986; Gacono & Meloy, 1991; Meloy, 1988).

According to Winnicott (1958, 1965), the infant initially experiences the world through the sensation of being held. Physical contact becomes the primary means for acquiring information during infancy and, therefore, contributes to the very earliest notions of self and others. This view is echoed by others who note that the earliest personal images of others, especially mothers, are tactile experiences and that texture responses may be thought of as a representation of these infantile sensory experiences (Mayman, 1967; Meloy, 1992).

Compared to nondelinquent youth, delinquents would be expected to have a higher frequency of so-called "T-less protocols." Because texture responses violate assumptions of normal distribution and because of the clinical distinction between records with no T responses and those with one or more T responses, the texture response variable is treated as a categorical variable (0 T responses vs. 1 or more T responses) and analyzed through appropriate non-parametric statistical tests described in the Analysis section.

Object Representations and the Rorschach.

Several studies have shown that youngsters who have experienced inadequate parenting have fewer human content, human movement and texture responses (Brecher, 1956; Goldfarb, 1944; Holaday, Armsworth, Swank, & Vincent, 1992; Monalto, 1952; Pierce, 1978). Youngsters whose parents were psychologically unavailable show similar patterns of disinterest in interpersonal relationships and denial of dependency needs.

Children ages six and seven whose parents were most restrictive and rule-oriented had fewer human movement and human content responses than those whose parents were less restrictive (Monalto, 1952). Those whose parents were restrictive and cold also had fewer texture responses compared to those whose parents were restrictive yet warm. The results of this study suggest that those children who experienced unaffectionate, restrictive parenting had decreased interest in interpersonal relationships and needed to defend against dependency needs because they lacked well developed internal object representations.

Brecher (1956) obtained similar results when comparing 25 maternally overprotected and 25 maternally rejected adult male schizophrenics. Those experiencing maternal rejection were interpersonally distant. They avoided close, intimate relationships. Maternally rejected subjects gave fewer human movement and texture responses than those who were overprotected, indicative of impaired internalized object representations.

Research with the Rorschach has shown that it is important to control for the number of responses per protocol (Exner, 1991). The number of human content responses and the number of human movement responses were calculated as a percentage of all responses to control for the effects of response productivity (Exner, Viglione, & Gillespie, 1984). A single "internalized object representations" score was calculated as the combined percentage of human movement and human content responses (Blatt & Berman, 1984; Blatt, Brennis, Schimek, & Glick, 1976; Exner, Viglione, & Gillespie, 1984; Fritsch & Holstrom, 1990). Several published studies have combined multiple Rorschach determinants to construct single scores for complex constructs, particularly in the assessment of object representations and object relations (Athey, Fleischer, & Coyne, 1980; Fritsch & Holstrom, 1990; Spear, 1980).

Frequency of texture responses was not included due to the non-normal distribution of this response in the general population. Delinquents were expected to score lower on this measure of internalized object representations than nondelinquent boys.

Delinquents and the Rorschach.

Studies that use the Rorschach test with delinquents have found significant differences in the number of human content, human movement and texture responses between delinquent and non-delinquent adolescents. A study of 30 Japanese delinquent males (DeVos, 1979) found that delinquents gave fewer human content, human movement and texture responses than a control group of 20 nondelinquent males. The mothers of delinquent boys also gave significantly fewer texture responses compared to mothers of nondelinquents. Mothers and fathers of delinquent boys had significantly fewer human movement responses, compared to the parents of non-delinquent males.

Schachtel (1951) reported that 59.2% of 500 delinquents gave no M responses, compared to 51.8% of non-delinquent controls. Decreased human movement responses have been reported for delinquents in India as well (Majumber & Roy, 1962; Ray, 1963; Raychaudhuri & Maitra, 1965).

Fewer human content responses have been reported among various types of delinquents. Both convicted and "incipient" (non-adjudicated) delinquent thieves had lower human content (Raychaudhuri & Maitra, 1965). Non-violent delinquents under ten years old gave as few M and H responses as older, serious offenders (Majumber & Roy, 1962), suggesting pre-adolescent involvement in delinquency may be indicative of more severe

developmental breakdown than later involvement in delinquency (Steinberg, 1986). Sinha, Singh, and Singh (1986) also reported finding fewer H responses among a heterogeneous group of delinquents in India. In a sample of youngsters charged with status offenses (offenses which are illegal due to the individual's status as a minor, and which are not as likely to be adjudicated today, i.e., truancy, incorrigibility, running away), Endacott (1941) found decreased M, but normal H. The percentage of human content responses was found to relate to both severity of crime and recidivism (Curtiss, Feczko, & Marohn, 1979).

To summarize expected findings on the Rorschach Inkblot Test, delinquent boys were expected to have fewer human content and human movement responses than nondelinquent boys, as delinquent behaviors are indicative of non-empathic social relationships with others. Delinquent boys were expected to have a higher frequency of "T-less" protocols than nondelinquent boys. Human content and human movement responses were also expected to relate to the frequency and severity of stressful life events and to maternal childrearing attitudes.

Inventory of Parent and Peer Attachment

The Inventory of Parent and Peer Attachment (IPPA) (Armsden & Greenberg, 1987) assesses the degree to which adolescents are attached to parents and peers. The IPPA is a self-report measure containing 28 items addressing parental attachment and 25 items regarding peer attachment. Answers are scored on 5-point Likert scale ranging from (1) = "Never or Almost Never" to (5) = "Always or Almost Always." The scale is more closely based on Bowlby's theory of attachment than many other self-report attachment measures (Lopez & Gover,

1993). Attachment in this measure is defined as "an enduring affectional bond of substantial intensity (Armsden & Greenberg, 1987, p. 428)." The security of this affectional bond rests in the continued accessibility and responsiveness of the attachment figure.

The IPPA assesses the cognitive expectancies that form the adolescent's internal working model of attachment figures. The IPPA contains separate sections for assessing parent and peer attachments; however, this study only used the section pertaining to maternal attachments. Attachments are measured along three dimensions: trust, communication and alienation. The Trust subscale reflects understanding and respect. The Communications subscale assesses the amount of verbal communication and the Alienation subscale measures anger and isolation (Lopez & Gover, 1993).

Internal reliability for the three parent scales using Cronbach's alpha range from .91 (parent trust and communication) to .86 (parent alienation) (Armsden & Greenberg, 1987). The scales were highly intercorrelated, ranging from .76 to -.40 (Armsden & Greenberg, 1987). In the present study, internal reliability for this scale using Cronbach's alpha was .93. The reliability of individual subscales was not investigated in this study.

Attention disorders, conduct problems and depression in adolescents have been shown to be significantly related to overall lower perceived parental attachment as measured by the IPPA (Nada Raja, McGee, & Stanton, 1992). Adolescents reporting lower levels of parental attachment on the IPPA also reported experiencing more negative life events and more distress (Nada Raja et al., 1992).

In the present study, youth were instructed to complete the IPPA with respect to their relationship with their mothers. A summary difference score of the three parent subscales

(trust + communication - alienation) was used as a score of "perceived perception of mother-child relationship." Although the preferability of using individual subscales is noted (Lopez & Gover, 1993), the reliability and validity studies conducted with the summary measure indicate substantial suitability of the summary score for these analyses (Armsden & Greenberg, 1987).

Delinquent youth were expected to report significantly more troubled attachments to their mothers. As with the Rorschach, the results of the IPPA were expected to be related to frequency and severity of stressful life events and maternal childrearing attitudes for both groups of boys. A copy of this measure can be found in Appendix D.

Peabody Picture Vocabulary Test - Revised

The Peabody Picture Vocabulary Test - Revised (PPVT-R; Dunn & Dunn, 1981) is a brief measure of receptive vocabulary which has been highly correlated with verbal intelligence (Dunn & Dunn, 1981). The PPVT-R is specifically recommended for use "as an initial screening device" for identifying exceptionally bright or slow individuals (Dunn & Dunn, 1981, p. 3). The revised edition of the PPVT was standardized on a nationwide sample of 4200 children based on demographic information from the 1970 US Census. The sample was representative of the population with regard to age, race, geographical location, parent occupation, ethnicity, and community size (Dunn & Dunn, 1981).

Test developers reported that split-half reliability coefficients for youth between the ages of 12- to 17-years-old, determined by the Rasch-Wright latent trait method, ranged from .83 to .87. Alternate form test-retest reliability coefficients for this age group ranged from .76

to .88. Delayed alternate forms retest reliability coefficients ranged from .68 to .88 for a time period of 9 to 31 days (Dunn & Dunn, 1981).

The median correlation between the PPVT and numerous vocabulary tests, including vocabulary subtests of individual intelligence tests, was .71 with a range from .20 to .89 (Dunn & Dunn, 1981). The PPVT had a median correlation with the Stanford-Binet Vocabulary subtest of .72 (Dunn & Dunn, 1981). Correlations with the Wechsler Intelligence Scale for Children (WISC) vocabulary subtest ranged from .37 to .83, with a median correlation of .69 (Dunn & Dunn, 1981). The PPVT has also been correlated with scores on individual intelligence tests which ranged from .38 on a non-verbal test to .72 on the Full Scale of the WAIS. The median correlations of the PPVT with Verbal and Full Scale scores on the WISC were .66 and .64, respectively (Dunn & Dunn, 1981). Due to restandardization of scores on the PPVT-R, the authors suggested that differences in standard scores between the PPVT-R and WISC-R "should be more than eliminated (Dunn & Dunn, 1981, p. 63)."

In a sample of delinquent youth, the correlation between the PPVT and the WISC was found to be .70 for the Verbal Scale, .69 for the Performance Scale and .73 for the Full Scale (Kendall & Little, 1977). Slightly higher correlations were found for an adolescent psychiatric sample (DeHorn & Klinge, 1978). The correlations between the PPVT-R and WISC-R for this sample were reported as .79 for Verbal Scale, .65 for Performance Scale and .78 for Full Scale. Although both studies conclude that the PPVT-R is an inadequate substitute for a complete intellectual assessment battery, the authors agree on its utility as a screening device, especially at lower levels of functioning (DeHorn & Klinge, 1978; Kendall & Little, 1977).

This measure was used to screen out youngsters with unusually high or low receptive vocabulary and to insure that groups were matched with regard to verbal intelligence.

Research Hypotheses

The following hypotheses were investigated in the present study:

1. H_1: Delinquent youngsters have experienced a greater number of stressful life events than nondelinquents as measured by the number of stressful events on the Children's Life Events Scale - Preschool version.

2. H_2: Delinquents have experienced more severe traumatic life events than nondelinquents as measured by the weighted score on the Children's Life Events Scale - Preschool version.

3. H_3: Mothers of delinquent youngsters will score lower (the more abusive direction) than mothers of nondelinquents on the Adult-Adolescent Parenting Inventory, Form B.

4. H_4: The frequency of no texture responses on the Rorschach Inkblot Test will be greater for delinquent youth than nondelinquent youth.

5. H_5: Relative to their nondelinquent peers, delinquent youngsters will report perceiving fewer human figures on the Rorschach Inkblot Test.

6. H_6: Relative to their nondelinquent peers, delinquent youngsters will report perceiving less human movement than nondelinquent youngsters on the Rorschach Inkblot Test.

7. H_7: Internalized object representations can be predicted from both early childhood life events and maternal childrearing attitudes as measured by human content and human movement responses to the Rorschach Inkblot Test, Children's Life Events Scale - Preschool version, and Adult Adolescent Parenting Inventory, Form B.

8. H_8: Maternal attitudes toward child rearing, as measured by the AAPI, Form B, will moderate the effect of traumatic life events on the internalized object representations of youngsters as measured by human content and human movement responses to the Rorschach Inkblot Test.

9. H_9: Compared to nondelinquent peers, delinquent youngsters will perceive themselves as less attached to their mothers as measured by the Inventory of Parent - Peer Attachment.

10. H_{10}: Perceived quality of mother-child attachment relationship, as measured by the Inventory of Parent and Peer Attachment - Parent Scale, will be predicted from both early childhood life events and maternal childrearing attitudes, as

measured by the Children's Life Events Scale - Preschool version and the Adult Adolescent Parenting Inventory, Form B.

11. H_{11}: Maternal attitudes toward childrearing, as measured by the AAPI, Form B, will moderate the effect of traumatic life events on youths' perceived mother-child relationship, as measured by the Inventory of Parent and Peer Attachment - Parent Scales.

Analysis

Differences in the frequencies of texture responses on the Rorschach Inkblot Test were determined by chi square tests for two independent samples. Despite criticisms that non-parametric tests decrease the statistical power and are over-used in Rorschach investigations (Acklin, McDowell, & Orndoff, 1991), a non-parametric test of categorical variables is required because of the important clinical differences between profiles with no texture responses and those with one or more responses (Weber, 1990). A 2 x 2 contingency table, with zero and one or more responses as categories, was used to structure the data.

A one-way Multivariate Analysis of Covariance (MANCOVA) , using maternal educational level as a covariate, was conducted to determine between group differences (delinquent versus nondelinquent) on the following dependent variables: 1) stressful life events - frequency, 2) stressful life events - severity, 3) maternal childrearing attitudes, 4) percentage of human content, 5) percentage of human movement, and 6) perceived mother-child relationship. Univariate Analyses of Covariance (ANCOVAs) were used to test the

significance of each dependent variable individually. The advantage of using a single MANCOVA over multiple ANCOVAs to control Type I and Type II errors has been well established, especially if the dependent variables may be highly intercorrelated (Bray & Maxwell, 1982; Haase & Ellis, 1987).

Hierarchical multiple regression (Wampold & Freund, 1987) was used to test the hypotheses that the effect of life events (frequency and severity) on internal object representations is moderated by maternal parenting attitudes and that this model is a significant predictor of both object representations (combined percentage of Rorschach H and M responses) and perceived mother-child relationship as measured by the composite IPPA score.

All tests were conducted at an alpha level of .05 and were performed using the most recent version of the Statistical Package for the Social Sciences (SPSS-X) computer software program.

CHAPTER 4

Results

This chapter presents the results of this study in two parts. The first part consists of an examination of demographic variables for the delinquent and nondelinquent groups. The second section presents the results of the hypothesis tests.

Demographic Variables

The delinquent group consisted of 9 Caucasian boys and 21 minority boys. Their mean age was 15.9 years old (S.D. = .91). Twenty of the boys participated in the federally subsidized school lunch program, 10 did not. Their average score on the Peabody Picture Vocabulary Test (PPVT-R) was 84.93 (S.D. = 16.08) and their mothers completed 11.6 years of school, on average (S.D. = 2.43). Five of the boys in this group lived in an intact family with both biological parents. Ten lived with only their mother and 15 lived with their mother and step-father or other adult.

The comparison group of nondelinquent boys consisted of 23 Caucasian boys and 7 minority boys. Their mean age was 14.7 years (S.D. = .84). Ten boys participated in the school lunch program, 20 did not. Their average score on the PPVT-R was 98.1 (S.D. = 17.72) and their mothers completed an average of 13.9 years of school (S.D. = 2.50). Eleven

Table 1

Distribution of Demographic Variables

	Delinquent (n=30)		Nondelinquent (n=30)	
Variable	N	%	N	%
Age				
14	2	6.7	15	50.0
15	7	23.3	10	33.3
16	12	40.0	4	14.3
17	9	30.0	1	3.3
Ethnicity				
Caucasian	9	30.0	23	76.7
African American	15	50.0	6	20.0
Hispanic	5	16.7	1	3.3
Other	1	3.3	--	--
Lunch Subsidy				
None	10	33.3	20	66.7
Partial	1	3.3	2	6.7
Full	19	63.3	8	26.7
Resides with:				
Mother only	10	33.3	11	36.7
Mother and Father	5	5.0	11	36.7
Mother and Step-Father	4	4.0	8	26.7
Mother and Other Adult	3	10.0	--	--
Other	8	26.7	--	--

boys came from intact families, 11 lived with only their mother and 8 lived with their mother and another adult. The distribution of demographic variables can be seen in Table 1.

Compared to the nondelinquent group, the delinquent boys were significantly older ($t(58) = 5.47$, $p < .001$). The delinquent group also had lower receptive vocabulary scores ($t(58) = -3.01$, $p < .01$) and their mothers had fewer years of formal education ($t(58) = -3.67$, $p < .01$). Delinquent boys were more likely to be minority ($\chi_2^1(N=60) = 13.13$, $p < .001$) and to receive federally subsidized school lunches ($\chi_2^1(N=60) = 6.67$, $p < .01$). With regard to whom boys lived with, there was no significant difference between delinquent and nondelinquent boys ($\chi_2^1(N=60) = 4.43$, $p > .11$).

Because of the small representation of Hispanic and other minority boys in both groups, non-White boys were combined into as single category labeled "Minority," with the remaining White boys referred to as "Majority" on a dichotomous majority/minority status variable. Similarly, participation in the federal school lunch program was dichotomized into non-subsidized/subsidized. These dichotomous variables were incorporated into subsequent analyses with delinquent, majority, and nonsubsidized groups all having values of 1 and nondelinquent, minority, and subsidized groups having values of 2. The means, standard deviations and ranges for dependent variables are listed in Table 2.

A correlation matrix indicated that demographic variables were highly intercorrelated with each other and with many of the predictor variables. Minority status was significantly correlated with lower levels of maternal education and lower PPVT-R scores as well as participation in the Federally subsidized school lunch program (all $ps < .01$). This indicates that boys from minority groups were likely to be economically disadvantaged, have more limited

Table 2

Descriptive Statistics of Dependent Variables (N = 60)

Variable	M	S.D.	Minimum	Maximum
Rorschach R	18.22	8.50	5	44
Rorschach H	1.83	1.80	0	8
Rorschach M	2.58	2.09	0	10
Childrearing Attitude	112.12	18.00	41	146
IPPA Score	104.08	20.07	51	134

verbal skills, and have mothers who had less formal schooling. Mothers' education level was negatively correlated with lunch subsidy, indicating that boys with more educated mothers came from families which were more economically advantaged.

Trauma frequency and intensity were highly intercorrelatated ($p < .01$), which was expected, as the intensity scale was based upon the weighted sum of the number of traumatic events. Childrearing attitudes were highly correlated with maternal education and boys' PPVT-R scores ($ps < .01$), suggesting a relationship between positive childrearing attitudes and academic success for mothers and sons. PPVT-R scores were also mildly associated with ethnic status ($p < .05$). Human movement and human content scores were highly intercorrelated with each other and with the number of Rorschach responses ($ps < .01$), indicating the appropriateness of calculating percent of responses represented by human movement (M) or human content (H) and using these percentages in subsequent hypothesis testing. Human content, human movement, and IPPA scores were not correlated with delinquency status or any other predictor variable, a surprising finding.

For the purpose of this study, only 2 variables, majority/minority group status and mother's education level, were incorporated into subsequent analyses as the most statistically and theoretically relevant. Both variables were statistically related to delinquency as well as to the dependent variables of interest, whereas age, though correlated with delinquency, bore no theoretical or statistical relationship to the dependent variables. The correlation matrix can be found in Table 3.

Table 3

Correltation Matrix for Dependent and Independent Variables (N = 60)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1.Group	–	-.58**	-.47**	.43**	-.33**	.37**	-.35**	-.40**	.34*	-.01	.03	.04	-.17
2. Age		–	.32*	-.24	.30*	-.39**	.15	.16	-.20	-.16	-.15	-.16	.14
3. Minority Status			–	-.42**	.33**	-.42**	.23	.22	-.30*	.10	-.01	-.01	.14
4. Mother's Ed. Level				–	-.43*	.56**	.01	-.05	.53**	.07	.05	.06	.00
5. Lunch Subsidy					–	-.37**	.18	.13	-.25	.18	.04	-.06	-.02
6. PPVT Score						–	.09	.04	.41**	.05	.09	.20	-.09
7. Trauma Frequency							–	.93**	.05	.12	.05	.15	-.04
8. Trauma Intensity								–	.01	.10	.03	.13	-.07
9. Childrearing Attitudes									–	.19	.10	.18	-.03
10. Rorschach R										–	.45**	.48**	.04
11. Rorschach H											–	.80**	.14
12. Rorschach M												–	.10
13. IPPA Score													–

Note. Group (1 = Delinquent, 2 = Nondelinquent); Minority Status (1 = Majority, 2 = Minority); Lunch Subsidy (1 = Unsubsidized, 2 = Subsidized).

All tests = 2-tailed; * = $p < .05$; ** = $p < .01$

Results of Hypothesis Testing

A 2 x 2 (Group x Minority Status) Multiple Analysis of Covariance (MANCOVA) was conducted using maternal education level as a covariate. The analysis indicated a significant main effect for Group (Wilks' $F_{6,50} = 2.61$ $p < .05$), but no significant multivariate effect for Minority Status or Group by Minority Status interaction. The latter, however, approached significance (Wilks' $F_{6,50} = 2.14$, $p < .07$). Two of the seven subsequent univariate ANCOVAs for the Group main effect indicated significant differences between delinquent and nondelinquent boys. A significant univariate ANCOVA was found for the Group by Minority Status interaction on childrearing attitudes ($F_{1,55} = 8.80$ $p < .01$). Means, standard deviations and F-ratios for dependent variables included in the MANCOVA can be found in Table 4.

Traumatic Life Events.

Univariate ANCOVAs indicated that delinquent and nondelinquent boys differed significantly with regard to the frequency and severity of early childhood trauma they experienced. Delinquent boys experienced both more frequent and more severe stressful life events prior to four years of age.

The first hypothesis concerned the frequency of traumatic events and stated that delinquent boys would experience a greater number of traumatic events in early childhood than nondelinquent boys. This was measured by the Children's Life Events Scale - Preschool version (CLES) which was completed by mothers. Delinquent boys experienced significantly

Table 4

Analyses of Variance for Delinquents and Nondelinquents

	Delinquent (n=30)				Nondelinquent (n=30)				
	Majority		Minority		Majority		Minority		
	M	SD	M	SD	M	SD	M	SD	F ratio
Trauma Frequency	2.11	0.93	2.71	2.28	1.35	1.19	1.23	1.11	7.24**
Trauma Intensity	107.78	44.16	114.57	95.33	55.17	44.51	58.71	46.60	8.97**
Childrearing Attitude	100.78	16.27	108.33	12.58	123.52	10.91	100.57	31.13	8.80**[a]
Human Content	9.23	8.40	8.22	8.30	11.42	8.27	14.89	20.86	1.90
Human Movement	12.09	11.32	12.40	9.95	16.10	11.42	18.54	19.06	2.05
IPPA Score	101.22	21.71	110.24	19.14	101.65	17.32	97.29	28.12	1.41

Note. [a] represents Group x Minority Status interaction ratio

** = $p < .01$

more traumatic events in early childhood events than nondelinquent boys ($F_{1,55} = 7.24$, $p < .01$).

The second hypothesis concerned the severity of early childhood trauma and stated that delinquent boys would experience more severe trauma in early childhood. Weighted values of the CLES items were used to test this hypothesis. Significant differences were found between delinquent and nondelinquent boys ($F_{1,55} = 8.97$, $p < .01$). Delinquent boys experienced significantly more severe early childhood trauma than nondelinquent boys.

Maternal Childrearing Attitudes.

Mothers of delinquent boys were expected to have more abusive childrearing attitudes than mothers of nondelinquent boys. Childrearing attitudes were measured by the Adult-Adolescent Parenting Inventory (AAPI). The univariate ANCOVA indicated no significant differences between delinquent and nondelinquent boys on this measure ($F_{1,55} = 0.59$, $p > .44$). The near-significant multivariate Group by Minority Status interaction (Wilks' $F_{6,50} = 2.14$, $p < .07$) was largely due to the significant univariate ANCOVA observed for maternal childrearing attitude ($F_{1,55} = 8.80$, $p < .01$). Within the group of majority boys, mothers of delinquents endorsed harsher childrearing attitudes than mothers of nondelinquents ($M_{delinquents} = 100.79$, SD = 16.28 vs. $M_{nondelinquents} = 123.58$, SD = 10.91). For minority boys, the mothers of nondelinquents endorsed harsher attitudes than the mothers of delinquent boys nondelinquents ($M_{delinquents} = 108.33$, SD = 12.58 vs. $M_{nondelinquents} = 100.57$, SD = 31.13).

To explore these relationships further, a subsequent 2 x 2 (Group x Minority Status) MANCOVA of the four AAPI subscales was conducted. This additional analysis indicated a

Table 5

Descriptive Statistics and Intercorrelations of Maternal Childrearing Subscales

	M	SD	Min	Max	1	2	3	4	Minority Status	Mother's Ed. Level
Entire Sample (N=60)										
AAPI Scale	112.12	17.79	41	146	.75**	.87**	.77**	.84**	-.30*	.53**
1. Expectation	20.73	4.18	5	27	--	.56**	.45**	.53**	-.10	.42**
2. Empathy	31.07	6.23	5	40		--	.52**	.67**	-.20	.35**
3. Punishment	31.65	5.60	15	44			--	.47**	-.25	.29*
4. Role Reversal	28.67	6.19	16	40				--	-.37**	.65**
Delinquent (n=30)										
AAPI Scale	106.07	13.95	77	133	.78**	.85**	.53**	.77**	.25	.55**
1. Expectation	19.93	3.77	13	27	--	.51**	.31	.54**	.16	.65**
2. Empathy	30.23	5.30	17	39		--	.35	.58**	.28	.38*
3. Punishment	29.60	4.31	22	39			--	.02	.16	-.07
4. Role Reversal	26.30	5.50	16	38				--	.13	.64**
Nondelinquent (n=30)										
AAPI Scale	118.17	19.70	41	146	.72**	.90**	.82**	.87**	-.50**	.40*
1. Expectation	21.53	4.47	5	26	--	.58**	.47**	.47**	-.17	.17
2. Empathy	31.90	7.03	5	40		--	.60**	.75**	-.52**	.29
3. Punishment	33.70	6.04	15	44			--	.62**	-.30	.32
4. Role Reversal	31.03	6.00	16	40				--	-.60**	.53**

Note. All tests = 2-tailed; * = $p < .05$, ** = $p < .01$

significant Group by Minority Status interaction (Wilks' $F_{4,52} = 3.15$, $p < .05$) on the omnibus MANCOVA, but no significant findings for the main effects of Minority Status (Wilks' $F_{4,52} = 0.92$, $p > .46$) or Group (Wilks' $F_{4,52} = 1.63$, $p > .19$) on this measure. Subsequent univariate ANCOVAs of the interaction effect were significant for two of the four subscales of the AAPI. Interaction effects were observed for subscales measuring maternal empathy ($F_{1,55} = 10.14$, $p < .01$) and role reversal ($F_{1,55} = 8.60$, $p < .01$). For majority boys, delinquency was associated with decreased maternal empathy and greater role reversal. For minority boys, delinquency was associated with higher levels of empathy and decreased role reversal. As can be seen from Table 5, Minority Status was associated with maternal childrearing attitudes for nondelinquents only. For delinquent boys, maternal education level was substantially more correlated with childrearing attitudes and the AAPI subscales are less intercorrelated, suggesting less consistent patterns of responding to test items among mothers of delinquent boys.

Object Representations.

Delinquent and nondelinquent boys were expected to differ significantly on several Rorschach variables related to object representations. Specifically, delinquent boys were expected to have a greater frequency of protocols without texture responses and give fewer human content or human movement responses. No significant differences were found between delinquent and nondelinquent boys on the number of human figure responses ($F_{1,55} = 1.90$, $p > .17$) or the number of human movement responses ($F_{1,55} = 2.05$, $p > .15$) given on the Rorschach Inkblot Test.

Table 6

Summary of Hierarchical Regression Analysis for Variables Predicting Object Representations (N=60)

Variable	B	SE B	β
Step 1			
Group	906.59	653.91	0.22
Step 2			
Trauma Frequency	1645.54	939.01	1.34
Trauma Intensity	-21.93	40.48	-0.75
Step 3			
Childrearing Attitudes	17.25	21.20	0.15
Step 4			
Interaction 1 (Trauma Frequency x Childrearing Attitude)	-13.07	7.69	-1.17
Interaction 2 (Trauma Intensity x Childrearing Attitude)	0.16	0.34	0.63

Note. $R^2 = .04$ for Step 1; $\Delta R^2 = .01$ for Step 2; $\Delta R^2 = .00$ for Step 3; $\Delta R^2 = .05$ for Step 4 (all ps > .05)

Delinquent boys were expected to have Rorschach protocols without texture responses (T = 0) more frequently than nondelinquent boys. A 2 x 2 contingency table was constructed with categories of 0 and 1 or more texture responses. Chi square analysis indicated no significant difference between delinquent and nondelinquent boys in the frequency of "T-less" protocols ($\chi^2_1(N=60) = 0.11$, $p > .73$), disconfirming this hypothesis.

A hierarchical multiple regression analysis was conducted to test the hypotheses that object representations could be predicted from a combination of maternal childrearing attitudes and severity and frequency of traumatic early childhood events and that maternal childrearing attitudes moderated the effect of early childhood trauma on object representations. The regression analysis shown in Table 6 did not support either hypothesis.

Delinquent and nondelinquent boys were hypothesized to differ with regard to their perceptions of their attachment relationships to their mothers. The perceived quality of the mother-son attachment relationship was measured by the Inventory of Parent-Peer Attachment (IPPA). A Univariate ANCOVA found no significant difference between delinquent and nondelinquent boys on this measure ($F_{1,55} = 1.41$, $p > .23$). It was also hypothesized that boys' perception of their attachment relationship with their mothers could be predicted from maternal childrearing attitudes as well as frequency and severity of traumatic life events, and that maternal childrearing attitudes would moderate the effect of traumatic childhood events on the adolescent's perception of the mother-child attachment relationship. This hypothesis was tested as part of the hierarchical multiple regression shown in Table 7. The results indicated that, relative to other variables, delinquency was the strongest, and only significant, predictor of IPPA scores. Maternal childrearing attitudes and early childhood trauma were not found to be

Table 7

Summary of Hierarchical Regression Analysis for Variables Predicting IPPA Scores (N=60)

Variable	B	SE B	β
Step 1			
Group	-12.83	6.28	-0.32*
Step 2			
Trauma Frequency	1.00	9.02	0.09
Trauma Intensity	-0.60	0.39	-2.12
Step 3			
Childrearing Attitudes	-0.14	0.20	-0.13
Step 4			
Interaction 1 (Trauma Frequency x Childrearing Attitude)	-0.00	0.07	-0.02
Interaction 2 (Trauma Intensity x Childrearing Attitude)	0.00	0.00	1.90

Note. $R^2 = .03$ for Step 1; $\Delta R^2 = .02$ for Step 2; $\Delta R^2 = .00$ for Step 3; $\Delta R^2 = .04$ for Step 4 (* = $p < .05$)

significant predictors of IPPA scores, nor was maternal childrearing attitude found to moderate the effects of early trauma on IPPA scores. These two hypotheses were, therefore, not supported.

CHAPTER 5

Discussion

This chapter summarizes and discusses the finding of this study and offers suggestions for future research. The first section of this chapter summarizes research findings of this investigation and relates these findings to existing research. The second section discusses implications of this investigation for theory and clinical practice. A discussion of the study's limitations and suggestions for future research are contained in the final sections.

Summary

This study used attachment theory as a basis for suggesting that traumatic early childhood events and harsh, indifferent, or abusive maternal childrearing attitudes contribute to delinquency by affecting the child's internal working models or object representations. Thirty delinquent and thirty nondelinquent males completed a test of receptive verbal ability, a measure of perceived mother-child relationship, and the Rorschach Inkblot Test. Their biological mothers completed a demographic information form, a checklist of traumatic childhood events their sons may have experienced and a measure of childrearing attitudes. All sixty boys resided in a mid-sized Midwestern city.

Attempts were made to match the groups on age, race, socioeconomic status, and verbal ability.

Substantial significant differences existed between the delinquent and nondelinquent samples on many of the demographic variables. Compared to the nondelinquent group, the delinquent boys were older, poorer, and were more likely to be from a minority group. They had lower verbal comprehension and their mothers were less well educated. They were just as likely as nondelinquent boys to come from intact, step-parent, or single-parent homes. Race and mother's educational level were used as covariates in subsequent analyses in an attempt to minimize the effects that differences in demographic variables would have upon the results of hypothesis tests.

A Multivariate Analysis of Covariance (MANCOVA) indicated that delinquent and nondelinquent boys differed significantly on the set of key measures used in this study. Univariate Analyses of Covariance (ANCOVAs) indicated that delinquent boys had experienced more frequent trauma in early childhood and more severe early childhood trauma than did their nondelinquent counterparts. This finding is consistent with previous research findings which relate early childhood trauma to aggressive acting out (Loss, Beck, & Wallace, 1995), unsocialized delinquency (Deutsch & Erickson, 1989; Kolvin, Miller, Fleeting, & Kolvin, 1988), and impaired emotional and physical health (Heisel, Ream, Raitz, Rappaport, & Coddington, 1973). Particularly noteworthy was the finding that trauma was not significantly correlated to either minority status or participation in the Federally subsidized school lunch program, an indicant of socioeconomic status. This

suggests that early childhood trauma occurs without regard to race or socioeconomic status.

The mothers of delinquent boys were expected to endorse harsher, colder attitudes toward childrearing as measured by the Adult Adolescent Parenting Inventory (AAPI, Bavolek, 1984). The results of this study suggest that the relation of maternal childrearing attitudes to delinquency is a complex issue. In the present study, neither delinquency nor minority group status alone significantly predicted maternal childrearing attitudes when mothers' educational level was controlled. However, a near significant multivariate interaction of delinquency and minority group status was observed. This trend was most prominent with respect to maternal childrearing attitudes.

For majority boys, nondelinquent boys had mothers whose childrearing attitudes were more empathic and who endorsed appropriate family roles. Among minority boys, nondelinquents had mothers who were less empathic and endorsed greater role reversal and parentification of the child. The relationship between minority group status and childrearing attitudes was observed for nondelinquent boys only, while the influence of mothers' education level on childrearing attitudes was found primarily for delinquent boys. No significant relationship was observed between minority group status and childrearing attitudes for delinquent boys. The findings for majority boys are not surprising in that substantial research supports a connection between delinquency and cold, harsh maternal childrearing attitudes. The results pertaining to minority boys were surprising, however. The results of this study suggest that mothers of nondelinquent minority boys tend to set

firmer limits on their sons' behavior and have higher behavioral expectations of them than the mothers of delinquent minority boys.

One possible explanation for this unexpected finding is the lack of racial balance between the delinquent and nondelinquent groups, creating a spurious statistical finding. An alternative explanation is suggested by research examining influences on delinquency among minority youth. Several studies have found that existing models of delinquency inadequately explain delinquent behavior for minority youngsters (Cernkovich & Giordano, 1987; Gray-Ray & Ray, 1990), and report conflicting findings regarding the impact of perceived parenting on delinquency. In a sample of Black males, Gray-Ray and Ray (1990) found parental rejection to be the only significant predictor of serious delinquency, with parental control and supervision only weakly related to serious delinquency. Cernkovich and Giordano (1987), however, found that increased intimate communication between parent and child, thought to be negatively related to delinquency, was, in fact, positively related to delinquency for minority boys. These authors suggested that this finding may reflect parent-initiated conversation in which the youth feels compelled to participate. If this instead reflects more flexible parent-child boundaries, this finding would be consistent with the current study and explain why increased role reversal was negatively related to delinquency for minority youth. It would not explain the apparent relationship between higher levels of empathy and delinquency among minority youth. Faw and Goldsmith (1980) found that minority adolescents whose parents had higher expectations of them tended to have fewer behavior problems while majority adolescents whose parents had high expectations had more behavior problems.

An additional explanation may be that the expectation that children will be responsive and attentive to their parents' needs serves to keep these boys in closer proximity to their mothers, and, therefore, more closely attached to them. Bowlby (1958) has suggested that the function of attachment relationships are to keep the child in close proximity with a stronger attachment figure who can provide protection. The differences in childrearing attitudes reported in this study may reflect diverse means by which majority and minority mothers facilitate an attachment relationship and protect their sons from engaging in delinquent behavior.

Several hypotheses examined expected differences in selected Rorschach variables between delinquent and nondelinquent boys. The specific variables examined -- texture responses, human content responses and human movement responses -- are conventionally interpreted as representing the individual's object representational world and providing an indication of how the individual views interpersonal relationships. It was hypothesized that delinquent boys would have a greater frequency of "T-less" protocols and fewer human content and human movement responses, as previous studies have shown that delinquent boys internalized fewer adequately developed object representations than nondelinquent boys (Gacono & Meloy, 1994; Weber, 1990; Weber, Gacono, & Meloy,1992). No significant differences were found between delinquent and nondelinquent boys on the three Rorschach variables.

Ward (1966) has suggested that the number of human movement responses may actually be higher in neglected children due to limitations of spontaneous motor experience, resulting in a greater reliance upon projection rather than motoric discharge.

It seems unlikely, however, that this is the case with delinquent adolescents who engage in constant motoric discharge. A complicating factor in understanding the Rorschach results is the inclusion in this study of protocols with fewer than fifteen responses. Such "barren Rorschachs" are often discarded in research and clinical settings as invalid (Exner, 1986). Typical of the responses on these "barren" protocols was one boy who responded "Wet paint. Cause it just looks like it!" to each card. Although technically a valid, scorable response, Brickman and Lerner (1992) note that structural scoring does not accurately reflect the personality dynamics of such adolescents. They recommended including a non-statistical "conceptual" approach to analyzing the Rorschachs of such highly resistant adolescents.

A unique aspect of this finding is that although the responses of delinquent boys were similar to the reported results from other studies of conduct disordered and delinquent adolescents, the nondelinquent sample differed considerably from other normative samples of non-patient adolescents reported by Exner (1990). A comparison is provided in Table 8; however, no statistical tests were conducted due to differences in sample size and sampling techniques. It is possible that the differences between the results for adolescents in this investigation and the results reported by Exner (1986) are due to weaknesses in the sampling methods used by Exner in establishing norms for his Comprehensive System (Wood, Nezworski, & Stejskal, 1996).

A more plausible explanation is that these results reflect the alienation, isolation, and detachment of urban adolescents in general. If so, then it becomes even more important to understand the protective factors which constrain adolescent involvement in

Table 8

Comparison of Means and Frequencies Among Groups of Adolescents on Select Rorschach Variables

	Pure Human Content				All Human Content			
	M	SD	Freq	(%)	M	SD	Freq	(%)
Delinquent (n=30)	1.77	2.08	19	(63)	4.93	3.62	27	(90)
Nondelinquent (n=30)	1.90	1.50	22	(73)	4.60	2.18	30	(100)
Conduct Disordered (n=100)	2.32	1.95	85	(85)	5.70	3.51	98	(98)
14 year olds (n=105)	3.00	1.71	105	(100)	5.46	2.44	105	(100)
15 year olds (n=110)	3.42	1.96	109	(99)	5.57	2.28	110	(100)
16 year olds (n=140)	3.39	1.94	139	(99)	5.51	2.12	140	(100)
Adult males (n=350)	3.62	1.89	346	(99)	5.72	1.61	350	(100)

	Human Movement				Texture			
	M	SD	Freq	(%)	M	SD	Freq	(%)
Delinquent (n=30)	2.50	2.45	23	(77)	0.40	1.48	5	(17)
Nondelinquent (n=30)	2.67	1.71	28	(93)	0.33	0.80	6	(20)
Conduct Disordered (n=100)	3.30	2.43	87	(87)	0.17	0.45	14	(14)
14 year olds (n=105)	4.06	2.24	105	(100)	0.99	0.52	85	(81)
15 year olds (n=110)	4.35	2.17	110	(100)	1.06	0.51	101	(92)
16 year olds (n=140)	4.31	2.13	140	(100)	1.02	0.48	128	(91)
Adult males (n=350)	4.54	2.00	350	(100)	0.97	0.50	307	(88)

Note. Freq = number of individuals providing at least one response. % = percent of sample providing at least one response. Conduct disordered adolescent norms from Gacono and Meloy, 1994, Non-patient norms from Exner, 1990.

serious delinquency. These factors may be represented by differences between delinquents and nondelinquents on other Rorschach indicants such as ego strength and impulse control (Afr, FC:C+CF) and ability to feel anxiety (Sum Y) (Curtiss, Feczsko, & Marohn, 1979; Gacono & Meloy, 1994) or by the differences in verbal ability, early trauma and maternal childrearing attitudes reported in this study.

Hierarchical regression analyses were employed to examine whether internalized object representations and perceived quality of the mother-child attachment relationship could be predicted from early childhood events and maternal childrearing attitudes. The CLES and AAPI were again employed to measure life events and maternal parenting attitudes, respectively. Internalized object relations were measured by combining the number of human content responses and the number of human movement responses to the Rorschach Inkblot Test and dividing by the total number of responses. Perceived mother-child relationship was measured by the Inventory of Parent-Peer Attachment (Armsden & Greenberg, 1987). Object relations theory proposes that children's early experiences of parenting and traumatic life events strongly influence subsequent interpersonal interactions by contributing to their internalized models of themselves and their relationships with others. It was hypothesized that boys who experienced harsh parenting and greater childhood trauma would have poorer internalized object representations. It was also hypothesized that harsh parenting and greater childhood trauma would influence boys' perceptions of their relationships with their mothers. These hypotheses were not supported. Hierarchical regression was also used to test whether maternal attitudes toward parenting would moderate the effect of early childhood trauma on boys' object

representations and perceived mother-child relationship. No significant relationship was found between these variables.

Delinquent and nondelinquent boys did not differ in their perceptions of their relationships with their mothers. In fact, contrary to expectation, delinquent boys scored in the more positive direction on the IPPA than nondelinquent boys. Willock (1986) suggested that aggressive, antisocial youngsters struggle to ward off feelings of being unloved and "utilize massive defensive operations in order to maintain a good image of mother (p.65)". Defensive denial in particular is often expressed through undersocialization and undercontrol of impulse and affect (Shedler, Mayman, & Manis, 1993). Additionally, self report scales such as the IPPA have been criticized as "transparent" and subject to ambiguous interpretation at the healthy or normal end of the spectrum (Shedler, Mayman, & Manis, 1993). It is also possible that these results reflect the fact that delinquents who participated in the study had mothers who were more committed and concerned with their sons, and are therefore less representative of the mothers of serious delinquents.

Implications for Theory and Practice

This study provides some support for the relevance of attachment theory to understanding delinquent behavior. Attachment theory postulates that children whose primary caregivers are not adequately responsive to their needs for safety and security will respond with increased anger and aggression. The present study confirms this central precept. Delinquency was associated with a prior history of childhood trauma and, for

majority boys, with suboptimal childrearing attitudes. This study was unable to confirm attachment theory's position that trauma and parenting influence the development of internal working models or object representations, or that object representations differed significantly between delinquent and nondelinquent boys.

Delinquent boys and their mothers responded as expected in this study, with the exception of a noted group by minority status interaction on the AAPI. The Rorschach responses of delinquent boys were notably devoid of texture responses and had fewer human movement and human content responses compared to established adolescent norms. That nondelinquent adolescents showed a similar lack in these types of responses is cause for concern about the state of adolescent emotional health and their capacity for empathy and close interpersonal relationships. Adolescence can be considered a time of emotional turmoil and upheaval, but these findings point to a deeper, more characterological rejection of attachment relationships. If this is an accurate reflection of urban adolescents' interpersonal functioning, it becomes crucial to understand what protective factors are working to keep these dangerously distant, alienated boys from engaging in delinquency. Is it merely a question of opportunity? Does attachment to social institutions such as school provide some protection by acting as a constraint upon engaging in delinquency, as social control theory suggests (Hirshi, 1969)? The significant differences in PPVT-R scores and mother's education level suggests that a family which places a strong value upon formal education is less likely to have a son involved in delinquent behavior. This family value may facilitate an attachment between the child and the school (Hirshi, 1969), increasing the likelihood that the child will experience academic

success, and deterring the child from engaging in delinquent behavior. The issue, then, may be one of (a) creating successful academic experiences for children at risk of future delinquency to increase their attachment to schools, and (b) increasing their mothers' education levels to establish stronger family affiliations with schools.

A clear implication of this study is the need for early intervention services for young children who have experienced traumatic life events. These children are at risk for greater physical and emotional health problems than their peers as well as subsequent involvement in delinquency. It is, therefore, highly appropriate that the school district in which this study was conducted has embarked upon an ambitious program to provide counseling services to elementary school students and their parents. Although this program is not specifically designed as a "delinquency prevention" program, any significant attempt to help ameliorate childhood trauma and improve family functioning is bound to ultimately reduce delinquency. Attempts to improve family functioning must be culturally sensitive, understanding ethnic differences in parenting practices and childrearing attitudes.

Limitations of the Present Study

This study contains some limitations which may have affected the research findings. First, it is important to note that only delinquent boys whose mothers came to visit were eligible to participate in this study. Less than 50% of the youth in detention during this time received visitors during their incarceration. Furthermore, many of the youth who received visits had only a father, grandparent or foster parent and were

therefore ineligible for this study. Some of the most serious delinquents were either waived into the adult system or were already remanded into state custody as a result of severe parental abuse or neglect, and thus were automatically excluded form this study. The delinquents who participated in this study had mothers who were interested in participating, many of whom expressed the hope that their participation would contribute to professional knowledge which might prevent some other child from becoming delinquent. These mothers may have been more involved with their sons, and thus, less representative of mothers of serious delinquents.

Some long-standing criticisms of delinquency research may be applied to this current study. Schmidl (1947) noted that "delinquency" is a legal/sociological term, not a psychological one. Delinquency is a behavioral syndrome which can have various causes. Delinquents are not a homogeneous group, and it is unlikely, in Schmidl's estimation, that any one group could be a representative sample of delinquents. His remarks are echoed by subsequent investigators such as Quay (1987) and Snyder and Patterson (1987) who define multiple subgroups of delinquents, each with their own behavioral trajectories and contributing influences. Agnew (1991) found that influences on delinquency change over the course of adolescence, with partial attachment of paramount importance in early adolescence, commitment to school in mid-adolescence, and internal beliefs in late adolescence. Steinberg (1987) has proposed a developmental model of delinquency which also delineates differing motivational and other contributing factors.

This study used a quasi-experimental design. By their nature, quasi-experimental designs contain significant threats to internal and external validity (Cook & Campbell,

1979). Obviously, boys could not be randomly assigned to "delinquent" or "nondelinquent" groups. The inclusion of a nondelinquent comparison group does, however, diminish some of the threat to this study's internal validity and is an improvement on many earlier studies of delinquency which do not include a comparison group. The most significant threats to external validity involve the samples of delinquent and nondelinquent boys. Sample sizes in each group were modest. Questions regarding representativeness of any sample of delinquent youngsters have already been raised. It is also unclear how representative the comparison group of nondelinquent boys was. DiLalla, Mitchell, Arthur, and Pagliocca (1988) reported that 80% of American adolescents admit committing at least one delinquent act. One must then wonder whether these nondelinquents were truly not involved in criminal behavior or, simply, not involved in the juvenile justice system. These issues limit the generalizability of this study. Additionally, this study was restricted to one relatively small geographic location. Policies regarding who is incarcerated or prosecuted are often influenced by community pressures and limited intervention resources. Many participants in early studies on delinquency would barely come to a court's attention in today's world of teenage violent crime. It remains unclear how generalizable these results will remain over time or settings.

This study contains several threats to internal validity. The substantial intercorrelations of ethnicity, mother's education level and federal lunch subsidy present potential risks of multicollinearity and nuisance variables in the regression and MANCOVA analyses, respectively. The relative effects of maternal education and

ethnicity were accounted for statistically; however, it would have been preferable to have more closely matched groups on these variables.

With regard to instrumentation, it is likely that the results of this study underestimate the frequency and severity of trauma experienced by many children today. The CLES assumes that a given event occurs only once during a given time-span. For example, although the measure includes an item regarding parental divorce or separation, it assumes that a child will only experience this event once. No provision is made for children whose parents separate from multiple partners, despite the implications this may have for the young child's ability to form stable, trusting relationships. The items contained in the CLES may not represent the scope and severity of stressful events experienced by today's urban youth. For example, it does not contain items regarding exposure to parental alcoholism, substance abuse, neighborhood violence, or homelessness. It also does not include being a victim of crime or having a parent who was a victim of a crime. While it does contain an item regarding parental separation or divorce, it does not include items regarding witnessing domestic violence, being the target of a custody dispute or enduring frequent moves. Although research has not demonstrated a definitive link between these specific types of life stress and subsequent delinquency, it seems reasonable to suggest that exposure to these events may cause at least as much trauma and stress as items such as, "Mother began work." Such events may be far more common to the life experiences of today's youth than one would like to acknowledge.

The clinical significance of ethnic differences observed on the AAPI remains unclear. This may be a statistical artifact of unbalanced groups, or it may signify more important differences in family dynamics and parental influences on delinquency between majority and minority boys. It is also unclear what impact, if any, consolidating all minority boys into a single "Minority" classification may have had, particularly in understanding cultural differences in maternal childrearing attitudes. A further limitation of the CLES and AAPI are their retrospective nature. This study's reliance upon maternal retrospective reports of childrearing attitudes and experience of stressful life events presented several problems. Mothers may have under-reported the occurrence of events or inaccurately recalled how old their sons were when these events occurred. During the data collection process, many mothers remarked, "I don't remember exactly how old he was when this happened." The limitations of the CLES itself have already been discussed. Second, mothers' attitudes toward childrearing may have changed or may not reflect actual parenting behavior. One mother of a delinquent boy endorsed "Strongly Disagree" to the AAPI item "Children should always be spanked when they misbehave" while stating, "I don't believe that anymore. I beat both my boys when they were young. Now the big one's in jail and the little one's here (juvenile detention), so I guess that don't work." An alternative approach such as a longitudinal study or in-depth interview might have resulted in greater differences in trauma and maternal childrearing attitudes.

Recommendations for Future Research

The results presented in this study are best understood as a preliminary investigation. Further replication with larger samples is needed to further delineate the complex, multifaceted ways in which trauma and parenting both contribute to delinquency. A larger sample size would have numerous benefits. The sample of delinquent youth could be further divided into relevant subgroups. As delinquents are not a homogenous group, it would be useful to distinguish such categories as aggressive and non-aggressive, gang-involved and solitary, recidivists and first offenders, as well as having more culturally diverse delinquent and non-delinquent groups. Such distinctions might be made through the inclusion of formal interviews such as the Hare Psychopathy Checklist to assess antisocial traits or the Diagnostic Interview Schedule for Children to assess for psychiatric disorders. Furthermore, the presence of a larger sample would allow for the inclusion of more Rorschach variables and the exclusion of protocols with questionable validity. An increased sample size would also increase the power of statistical analyses, especially regression analyses, and maximize the likelihood of detecting significant statistical relationships.

Future research must include comparison groups that are well matched with respect to age, ethnicity, socioeconomic status and parental education level. These factors were found to be highly intercorrelated with delinquency as well as parental childrearing attitudes and early childhood trauma. Such relationships often obscure rather than illuminate and present methodological complications which can only be partially addressed by statistical means. Furthermore, the results of this study hint at important differences

between majority and minority boys. Certainly the inclusion of more racially balanced groups would permit more ethnically-sensitive statements about differential paths to delinquency.

The results of this study have limited generalizability. It will be important to replicate these findings with adolescents in other geographical locations. It will also be important to include females to discern differences in male and female pathways to delinquency. The current investigation employs a comparison group of nondelinquent boys which is an improvement over many previous studies; however, future studies might include a more narrowly defined population of adolescents who show strong prosocial attitudes such as youth involvement in community activities or volunteer work rather than an absence of criminal history. While the focus of this study was on mother-child relationships, it would be useful to examine the salience of the father-child relationship in future studies as well.

While significant differences were found in frequency and severity of early childhood trauma, the present finding was likely an underestimate of frequency, severity, and type of trauma experienced by contemporary adolescents. Future research might employ a more current measure of traumatic events which accounts for the limitations of the CLES. It would also be of interest to examine parent-child concordance on such a measure. Such an investigation might provide some indication as to whether the experience of trauma or the individual's perception of the trauma has a more profound effect on subsequent functioning. With regard to the use of projective testing as an tool for examining internal object representations, it remains unclear why the nondelinquent

sample performed so similarly to the delinquent sample and to clinical samples reported in earlier studies. Areas for future study might include the scoring of additional Rorschach variables or the inclusion of more comprehensive object representation scales such as those of Blatt (Blatt & Lerner, 1983; Blatt, Brenneis, Schiemek, & Glick, 1976) or Kwawer (1979, 1980), or the use of other projective instruments such as the Thematic Apperception Test.

The final recommendation is for more longitudinal research to determine the direction of the relationship between variables such as parenting attitudes and delinquency. Liska and Reed (1985) have shown the importance of cross-lagged studies in demonstrating the causal relationship between parenting and delinquency. A longitudinal study might also include observation of actual parent-child interaction at several points throughout childhood and adolescence.

Juvenile delinquency is a complex, multifaceted problem that has long perplexed psychologists, sociologists, criminologists and educators. While many studies have sought to examine contributing factors to delinquency, what has often been lacking in prior research has been a comprehensive, unifying theoretical framework. By utilizing tenets of attachment theory, this study examined the relative contributions of childhood trauma and maternal childrearing attitudes. The exact means by which these factors influence subsequent delinquent behavior were not successfully clarified by the current study. It is hoped that future research will be able to demonstrate the influence of trauma and parenting on the formation of object representations and subsequent delinquent behavior.

APPENDICES

Appendix A

Parental Consent Form

I am interested in learning about factors that affect teenage behavior in order to improve education and other services for teens. You have been identified as the mother of a teenage boy. I invite you and your son to participate in a study I will be conducting. If you agree to participate, you will be asked to complete several brief questionnaires. Your son will be asked to complete several measures of teenage behavior.

The parent questionnaires will take a total of about 30 minutes to finish. The teen measures will take about 90 minutes to complete and will be given during the school day by advanced doctoral students in psychology. Your participation and your teenager's participation are completely voluntary. You and your teenager may choose to not answer any question or stop participating at any time. Consent or refusal to participate will not affect services provided to your or your son in any way.

Answers to all measures will be kept confidential. Summaries of the information gathered and statistics used will be based on group data, but will not identify individuals. A summary of the research results may be obtained upon the study's completion by contacting me.

I hope that you will choose to participate and allow your son to participate. Please feel free to contact me if you have any additional questions.

Yours truly,
Sandi Isaacson, M.Ed.

Please sign both statements.

I understand and agree to participate in this study.

_____ _____
Signature Date

I agree to allow my child, _____, to participate in this study.

_____ _____
Signature Date

Appendix A (continued)

Youth Assent Form

Verbal instructions to be read to teenager PRIOR to testing:

We would like to learn more about teenage behavior and would like you to be part of our study. The study will take about 1 1/2 hours. I will ask you some questions and show you some drawings and designs.

You do not have to participate if you don't want to. If you decide to participate, you can stop at any time, or choose not to answer any question you feel uncomfortable with. All of your answers will be kept confidential. They will not be shared with your parents, teachers or anyone else except experimenters conducting this study. Your name will be removed from all answer sheets.

Whether or not you participate is up to you. Your decision will not affect your [grades at school] / [treatment or length of stay at the Youth Center] (read appropriate phrase). If you or your parents have any questions, you can ask me or your parents can call Ms. Isaacson, who is running this study, at XXX-XXXX.

Do you have any questions?

Would you like to be in this study?

Appendix B

GENERAL INFORMATION QUESTIONNAIRE

In order to help us get a better "picture" of your son, please answer the following brief questions. All responses will be kept confidential.

Child's age _____

Current grade _____

Race/ethnicity _____

Last grade of school you completed _____

Do you receive ADC or Medicaid? _____

Thank you for your participation in this study.

Appendix C

Children's Life Events Questionnaire
(Coddington, 1972)

Instructions

Listed below are some events they your child may have experienced during his first four years. Please check the events that your child experienced. Leave it blank if your child did not experience the event.

_____ 1. Child began nursery, preschool, or daycare

_____ 2. Child changed to a different school or daycare

__*__ 3. Birth or adoption of a brother or sister

__*__ 4. Brother or sister left home

__*__ 5. Hospitalization of brother or sister

_____ 6. Death of brother or sister

__*__ 7. Change of father's job requiring increased absence from home

__*__ 8. Loss of job by parent (mother/father)

_____ 9. Marital separation of parents

__*__ 10. Divorce of parents

_____ 11. Hospitalization of parent (serious illness)

_____ 12. Death of a parent

_____ 13. Death of a grandparent

_____ 14. Marriage of parent to stepparent

__*__ 15. Jail sentence of parent for 30 days or less

__*__ 16. Jail sentence of parent for 1 year or more

Appendix C (continued)

__*__ 17. Addition of third adult to family (e.g., grandparent)

_____ 18. Change in parents' financial status

__*__ 19. Mother began work

_____ 20. Decrease in number of arguments between parents

_____ 21. Increase in number of arguments between parents

_____ 22. Discovery of being an adopted child

__*__ 23. Acquiring a visible deformity

__*__ 24. Having a visible congenital deformity

__*__ 25. Child hospitalized

__*__ 26. Change in acceptance by peers

_____ 27. Outstanding personal achievement

__*__ 28. Death of child's close friend

Note. * = items on which delinquents differed significantly from nondelinquents ($p < .05$).

Appendix D

IPPA

(Armsden & Greenberg, 1987)

Teenagers have many different feelings about their mothers. Please answer each item as honestly as you can. All responses will be kept confidential; they will not be shared with your parents, teachers or classmates.

Indicate whether the following items are "always or almost always true", "often true", "sometimes true", "seldom true", or "almost never or never true" for you.

	Never True	Seldom True	Sometimes True	Often True	Always True
My mother respects my feelings.	1	2	3	4	5
I feel my mother is successful as a parent.	1	2	3	4	5
I wish I had a different mother.	1	2	3	4	5
My mother accepts me as I am.	1	2	3	4	5
I have to rely on myself when I have a problem to solve.	1	2	3	4	5
I like to get my mother's point of view on things I'm concerned about.	1	2	3	4	5
I feel it's no use letting my feelings show.	1	2	3	4	5
My mother senses when I'm upset about something.	1	2	3	4	5

Appendix D (continued)

	Never True	Seldom True	Sometimes True	Often True	Always True
Talking over my problems with my mother makes me feel ashamed or foolish.	1	2	3	4	5
My mother expects too much from me.	1	2	3	4	5
I get upset easily at home.	1	2	3	4	5
I get upset a lot more than my mother knows about.	1	2	3	4	5
When we discuss things, my mother considers my point of view.	1	2	3	4	5
My mother trusts my judgment.	1	2	3	4	5
My mother has her own problems, so I don't bother her with mine.	1	2	3	4	5
My mother helps me to understand myself better.	1	2	3	4	5
I tell my mother about my problems and troubles.	1	2	3	4	5
I feel angry with my mother.	1	2	3	4	5
I don't get much attention at home.	1	2	3	4	5
My mother encourages me to talk about my difficulties.	1	2	3	4	5
My mother understands me.	1	2	3	4	5
I don" know whom I can depend on these days.	1	2	3	4	5
When I am angry about something, my mother tries to be understanding.	1	2	3	4	5

Appendix D (continued)

	Never True	Seldom True	Sometimes True	Often True	Always True
I trust my mother.	1	2	3	4	5
My mother doesn't understand what I'm going through these days.	1	2	3	4	5
I can count on my mother when I need to get something off my chest.	1	2	3	4	5
I feel that no one understands me.	1	2	3	4	5
If my mother knows something is bothering me, she asks me about it.	1	2	3	4	5

REFERENCES

REFERENCES

Acklin, M. W., Bibb, J. L., Boyer, P., & Jain, V. (1991). Early memories as expressions of relationship paradigms: A preliminary investigation. Journal of Personality Assessment, 57, 177-192.

Agnew, R. (1991). A longitudinal test of social control theory and delinquency. Journal of Research in Crime and Delinquency, 28, 126-156.

Ainsworth, M. D. (1964). Patterns of attachment behavior shown by the infant in interaction with his mother. Merrill-Palmer Quarterly, 10, 51-58.

Ainsworth, M. D. (1969). Object relations, dependency and attachment: A theoretical review of the infant-mother relationship. Child Development, 40, 969-1025.

Ainsworth, M. D. (1979). Infant-mother attachment. American Psychologist, 34, 932-937.

Ainsworth, M. D. (1985). Patterns of attachment. The Clinical Psychologist, 38, 27-29.

Ainsworth, M. D. (1989). Attachments beyond infancy. American Psychologist, 44, 709-716.

Allen, J. P., Aber, J. L., & Leadbeater, B. J. (1990). Adolescent problem behaviors: The influence of attachment and autonomy. Psychiatric Clinics of North America, 13, 455-467.

Armsden, G. C., & Greenberg, M. T. (1987). The Inventory of Parent and Peer Attachment: Individual differences and their relationship to psychological well-being in adolescence. Journal of Youth and Adolescence, 16, 427-454.

Athey, G. I., Fleicher, J., & Coyne, L. (1980). Roschach object representation as influenced by thought and affect organization. In J. S. Kwawer, H. D. Lerner, P. M. Lerner, & A. Sugarman (Eds.). Borderline phenomena and the Rorschach test (pp. 275-278). New York: International Universities Press.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of Personality and Social Psychology, 51, 1173-1182.

Bavolek, S. J. (1984). Handbook for the Adult-Adolescent Parenting Inventory (AAPI). Shaumberg, FL: Family Development Associates, Inc.

Bene, E. (1975). An effect on Rorschach M responses of a boy's relationship with his mother. Journal of Personality Assessment, 39, 114-115.

Birigin, Z. (1994). Attachment theory and research: Application to clinical practice. American Journal of Orthopsychiatry, 64, 404-420.

Blatt, S. J., & Lerner, H. D. (1983). The psychological assessment of object representation. Journal of Personality Assessment, 47, 7-28.

Blatt, S. J., & Berman, W. H. (1984). A methodology for the use of the Rorschach in clinical research. Journal of Personality Assessment, 48, 226-239.

Blatt, S. J., Brenneis, C. B., Schimek, J. G., & Glick, M. (1976). Normal development and psychopathological impairment of the concept of the object on the Rorschach. Journal of Abnormal Psychology, 85(4), 364-373.

Blatt, S. J., Tuber, S. B., & Auerbach, J. S. (1990). Representation of interpersonal interactions on the Rorschach and level of psychopathology. Journal of Personality Assessment, 54, 711-728.

Bowlby, J. (1947). 44 Juvenile thieves: Their characteristics and home life. London: Balliere, Tindall & Cox.

Bowlby, J. (1958). The nature of the child's tie to his mother. International Journal of Psychoanalysis, 39, 350-373.

Bowlby, J. (1977a). The making and breaking of affectational bonds: I Aetiology and psychopathology in the light of attachment theory. British Journal of Psychiatry 130, 201-210.

Bowlby, J. (1977b). The making and breaking of affectational bonds: II Some principles of psychotherapy. British Journal of Psychiatry, 130, 421-431.

Bowlby, J. (1988). A secure base: Parent-child attachment and healthy human development. New York: Basic Books.

Brand, H. J., Crous, B. H., & Hanekom, J. D. (1990). Perceived parental inconsistency as a factor in the emotional development of behavior-disordered children. Psychological Reports, 66, 620-622.

Bray, J. H., & Maxwell, S. E. (1982). Analyzing and interpreting significant MANOVAs. Review of Educational Research, 52, 340-367.

Brennan, P. A., & Mednick, S. A. (1990, August). Childhood psychopathology as a predictor of violent criminal behavior. Paper presented at the 98th Annual Convention of the American Psychological Association, Boston, MA.

Brickman, A.S., & Lerner, H. D. (1992). Barren Rorschachs: A conceptual approach. Journal of Personality Assessment, 59, 176-184.

Burbach, D. J., Kashani, J. H., & Rosenberg, T. K. (May 1989). Parental bonding and depressive disorders in adolescents. Journal of Child Psychology & Psychiatry & Allied Disciplines, 30, 417-429.

Call, J. D. (1984). Child abuse in infancy: Sources of hostility within the parent-infant dyad and disorders of attachment in infancy, Child Abuse and Neglect, 8, 185-202.

Carlson, V., Cicchetti, D., Barnett, D., & Braunwald, K. (1989). Disorganized/disoriented attachment relationships in maltreated infants. Developmental Psychology, 25, 525-531.

Cernkovich, S., & Giordano, P. (1987). Family relationships and delinquency. Criminology, 25, 295-321

Cicchetti, D., & Barnett, D. (1992). Attachment organization in maltreated preschoolers. Development and Psychopathology, 3, 397-411.

Coddington, R. D. (1972a). The significance of life events as etiologic factors in the diseases of children, I: A survey of professional workers. Journal of Psychosomatic Research, 16, 167-181.

Coddington, R. D. (1972b). The significance of life events as etiologic factors in the diseases of children, II: A study of a normal population. Journal of Psychosomatic Research, 16, 205-213.

Coddington, R. D. (1984). Measuring the stressfulness of a child's environment. In J. H. Humphrey (Ed.), Stress in Childhood (pp. 97-126). New York: AMS Press, Inc.

Cohn, D. A.(1990). Child-mother attachment of six-year-olds and social competence at school. Child Development, 61, 152-162.

Cook, T. D., & Campbell, D. T. (1979). Quasi-experimentation. New York: Rand McNally.

Crittenden, P. M. (1990). Internal representational models of attachment relationships. Infant Mental Health Journal, 11, 259-276.

Crowell, J. A., O'Connor, E., Wollmers, G., Sprafkin, J., & Rao, U. (1991). Mothers' conceptualizations of parent-child relationships: Relation to mother-child interaction and child behavior problems. Development and Psychopathology, 3, 431-444.

Curtiss, G., Feczko, M. D., & Marohn, R. C. (1979). Rorschach differences in normal and delinquent white male adolescents: A discriminant function analysis. Journal of Youth and Adolescence, 8(4), 379-392.

Davidow, S., & Bruhn, A. R. (1990). Earliest memories and the dynamics of delinquency: A replication study. Journal of Personality Assessment, 54, 601-616.

DeHorn, A., & Klinge, V. (1978). Correlations and factor analysis of the WISC-R and the Peabody Picture Vocabulary Test for an adolescent psychiatric sample. Journal of Consulting and Clinical Psychology, 46, 1160-1161.

Deutsch, L., & Erickson, M. T. (1989). Early life events as discriminators of socialized and undersocialized delinquents. Journal of Abnormal Child Psychology, 17, 541-551.

DeVos, G. A. (1979). A Rorschach comparison of delinquent and non-delinquent Japanese family members. Journal of Psychological Anthropology, 2, 425-441.

DiLalla, L. F., Mitchell, C. M., Arthur, M. W., & Pagliocca, P. M. (1988). Aggression and delinquency: Family and environmental factors. Journal of Youth and Adolescence, 17, 233-246.

Dodge, K. A., Pettit, G. S., & Bates, J. E. (1994). Socialization mediators of the relation between socioeconomic status and conduct problems. Child Development, 65, 649-655.

Dunn, L. M., & Dunn, L. M. (1981). Peabody Picture Vocabulary Test - Revised. Circle Pines, MN: American Guidance Service.

Endacott, J. L. (1941). The results of 100 male juvenile delinquents on the Rorschach Inkblot Test. Journal of Criminal Psychopathology, 3, 41-50.

Exner, J. E., Jr. (1986). The Rorschach: A comprehensive system. Volume 1: Basic Foundations, (2nd ed.). New York: John Wiley & Sons, Inc.

Exner, J. E., Jr. (1990). A Rorschach workbook for the comprehensive system (3rd ed.). Asheville, NC: Rorscharch Workshops.

Exner, J. E., Jr. (1991)). The Rorschach: A comprehensive system. Volume 2: Interpretation, (2nd ed.). New York: John Wiley & Sons, Inc.

Exner, J. E., Jr., Bryant, E., & Miller, A. (1975). Rorschach responses of some juvenile offenders. Unpublished manuscript. Asheville, NC: Rorschach Workshops.

Exner, J. E., Jr., Thomas, E. A., & Mason, B. J. (1985). Children"s Rorschachs: Description and prediction. Journal of Personality Assessment, 49, 13-20.

Exner, J. E., Jr., Viglione, D. J., & Gillespie, R. (1984). Relationships between Rorschach variables as relevant to the interpretation of structural data. Journal of Personality Assessment, 48, 65-70.

Farrington, D. P., (1978). The family backgrounds of aggressive youths. In L. Hersov, & M. Berger (Eds.), Aggression and anti-social behavior in children and adolescents (pp.73-93). New York: Pergamon Press.

Faw, T. T., & Goldsmith, D. F. (1980). Interpersonal perceptions within families containing behavior problem adolescents. Journal of Youth and Adolescence, 9, 553-556.

Federal Bureau of Investigation (1995). Uniform Crime Report. Washington, DC: Government Printing Office.

Feehan, M., McGee, R., Stanton, W. R., & Silva, P. A. (1991). Strict and inconsistent discipline in childhood: Consequences for adolescent mental health. British Journal of Clinical Psychology, 30, 325-331.

Fishler, P. H., Sperling, M. B., & Carr, A. C. (1990). Assessment of adult relatedness: A review of empirical findings from object relations and attachment theories. Journal of Personality Assessment, 55, 499-520.

Freud, S. ([1905]/1935). Three essays on the theory of sexuality. Standard Edition, 7, 130-245.

Fritsch, R. C., & Holstrom, R. W. (1990). Assessing object representations as a continuous variable: A modification of the Concept of the Object on the Rorschach scale. Journal of Personality Assessment, 55, 319-334.

Furman, R. A., & Furman, E. (1984). Intermittent decathexis: A type of parental dysfunction. International Journal of Psychoanalysis, 65, 423-433.

Gacono, C. (1988). A Rorschach analysis of object relations and defensive structure and their relationship to narcissism and psychopathy in a group of antisocial offenders. Unpublished doctoral dissertation, United States International University, San Diego, CA.

Gacono, C. B. (1990). An empirical study of object relations and defensive operations in antisocial personality disorder. Journal of Personality Assessment, 54, 589-600.

Gacono, C., & Meloy, J. R. (1991). A Rorschach investigation of attachment and anxiety in anti-social personality disorder. Journal of Nervous & Mental Disease, 179, 546-552.

Gacono, C., & Meloy, J. R. (1994). The Rorschach and assessment of aggressive and psychopathic personalities. Hillsdale, NJ: Lawrence Erlbaum.

Gold, M., & Mann, D. (1972). Delinquency as a defense. American Journal of Orthopsychiatry, 42, 463-479.

Goldberg, S. (1988). Risk factors in attachment. Canadian Journal of Psychology, 42, 173-188.

Goldberg, S. (1991). Recent development in attachment theory and research. Canadian Journal of Psychiatry, 36, 393-400.

Goldfarb, W. (1944). Effects of early institutional care on adolescent personality: Rorschach data. American Journal of Orthopsychiatry, 14, 441-447.

Gove, W. R., & Crutchfield, R. D., (1982). The family and juvenile delinquency. Sociological Quarterly, 23, 301-319.

Gray-Ray, P., & Ray, M. (1990). Juvenile delinquency in the Black community. Youth and Society, 22, 67-84,

Greco, C. M., & Cornell, D. G. (1992). Rorschach object relations of adolescents who committed homicide. Journal of Personality Assessment, 59, 574-583.

Haapasalo, J., & Tremblay, R. E. (1994). Physically aggressive boys from ages 6 to 12: Family background, parenting behavior, and prediction of delinquency. Journal of Consulting and Clinical Psychology, 62, 1044-1052.

Haase R. F., & Ellis, M. V. (1987). Multivariate analysis of variance. Journal of Counseling Psychology, 34, 404-413.

Heisel, J. S., Rean, S., Raitz, R., Rappaport, M., & Coddington, R. D. (1973). The significance of life events as contributing factors in the diseases of children. Journal of Pediatrics, 83, 119-123.

Hirshi, T. (1969). Causes of delinquency. Berkeley: Free Press.

Holaday, M., Armsworth, M. W., Swank, P. R., & Vincent, K. R. (1992). Rorschach responding in traumatized children and adolescents. Journal of Traumatic Stress, 5, 119-129.

Hopkins, J. (1990). The observed infant of attachment theory. British Journal of Psychotherapy, 6, 460-470.

Horner, A. J. (1984). Object relations and the developing ego in therapy. Northvale, NJ: Jason Aronson Inc.

Horner, A. J. (1991). Psychoanalytic object relations therapy. Northvale, NJ: Jason Aronson, Inc.

Howard, J. (1981). The expression and possible origins of depression in male adolescent delinquents. Australian and New Zealand Journal of Psychiatry, 15, 311-318.

Johnson, R. E. (1987). Mother's vs. father's role in causing delinquency. Adolescence, 22, 305-315.

Kendall, P.C., & Little, V. L. (1977). Correspondence of brief intelligence measures to the Wechsler scales with delinquents. Journal of Consulting and Clinical Psychology, 45, 660-666.

Kestenbaum, C. J. (1984). Pathological attachments and their relationship to affective disorders in adult life. American Journal of Psychoanalysis, 44, 33-49.

King, C. H. (1976). The ego and the integration of violence in homicidal youth. Annual Progress in Child Psychiatry and Development, 695-709.

Klopfer, B., Ainsworth, M. D., Klopfer, W. G., & Holt, R. R. (1954). Development in the Rorschach technique. Volume I. Technique and theory. Yonkers-on Hudson, NY: World Book.

Kobak, R. R., & Sceery, A. (1988). Attachments in late adolescence: Working models, affect regulation, and representations of self and others. Child Development, 59, 135-146.

Kolvin, I., Miller, F. J., Fleeting, M., & Kolvin, P. A. (1988). Social and parenting factors affecting criminal offense rates: Findings from the Newcastle Thousand Family Study (1947-1980). British Journal of Psychiatry, 152, 80-90.

Kwawer, J. S. (1979). Borderline phenomena, interpersonal relations, and the Rorschach test. Bulletin of the Menninger Clinic, 43, 515-524.

Kwawer, J. S. (1980). Primitive interpersonal modes, borderline phenomena, and Rorschach content. In J. S. Kwawer, H. D. Lerner, P. M. Lerner, & A. Sugarman, (Eds.). Borderline Phenomena and the Rorschach test (pp. 89-105). New York: International Universities Press, Inc.

Levine, L. B. & Tuber, S. B. (1993). Measures of mental representations: Clinical and theoretical considerations. Bulletin of the Menninger Clinic, 57, 69-87.

Lewis, D. O. (1992). From abuse to violence: Psychophysiological consequences of maltreatment. Journal of the American Academy of Child and Adolescent Psychiatry, 31, 383-391.

Lewis, D. O., Lovely, R., Yeager, C., & Femina, D. D. (1989). Toward a theory of the genesis of violence: A follow-up study of delinquents. Journal of the American Academy of Child and Adolescent Psychiatry, 28, 431-436.

Lewis, D. O., Pincus, J. H., Bard, B., Richardson, E., Prichep, L. S., Feldman, M., & Yeager, C. (1988). Neuropsychiatric, psychoeducational and family characteristics of 14 juveniles condemned to death in the United States. American Journal of Psychiatry, 145, 585-589.

Lewis, D. O., Shanock, S. S., Pincus, J. H., & Glaser, G. H. (1980). Violent juvenile delinquents: Psychiatric, neurological, psychological and abuse factors. Annual Progress in Child Psychiatry and Development, 591-603.

Liska, A. E., & Reed, M. D. (1985). Ties to conventional institutions and delinquency: Estimating reciprocal effects. American Sociological Review, 50, 547-560.

Loeber, R., & Dishion, T. (1983). Early predictors of male delinquency. Psychological Bulletin, 94, 68-99.

Loeber, R., & Stouthamer-Loeber, M. (1986). Family factors as correlates and predictors of juvenile conduct problems and delinquency. In M. Tonry, & N. Morris (Eds.), Crime and Justice: A review of research. Volume 12 (pp. 29-149). Chicago: University of Chicago Press.

Longfellow, C., & Belle, D. (1984). Stressful environments and their impact on children. In J. H. Humphrey, (Ed.). Stress in Childhood. (pp. 63-78). New York: AMS Press, Inc.

Lopez, F. G., & Gover, M. R. (1993). Self-report measures of parent-adolescent attachment and separation-individuation: A selective review. Journal of Counseling and Development, 71, 560-569.

Loss, N., Beck, S. J., & Wallace, A. (1995). Distressed and nondistressed third- and sixth-grade children's self-reports of life events and impact and concordance with mothers. Journal of Abnormal Child Psychology, 23, 397-409.

Luntz, B. K. & Widom, C. S. (1994). Anti-social personality disorder in abused and neglected children grown up. American Journal of Psychiatry, 151, 670-674.

Lyons-Ruth, K., Alpern, L., & Repacholi, B. (1993). Disorganized infant classification and maternal psychosocial problems as predictors of hostile-aggressive behavior in the preschool classroom. Child Development, 64, 572-585.

Maguire, K., & Flanagan, T. J. (1991). Sourcebook of criminal justice statistics 1990. Washington D.C.: U.S. Department of Justice, Bureau of Justice Statistics, U.S. Government Printing Office.

Mahler, M. S. (1979). Selected papers of Margaret S. Mahler. Volumes I & II. New York: Jason Aronson, Inc.

Main, M., Kaplan, N., & Cassidy, J. (1985). Security in infancy, childhood and adulthood: A move to the level of representation. In I. Bretherton & E. Waters (Eds.), Growing points of attachment theory and research. Monographs of the Society for Research in Child Development, 50, 1-2, Serial #209 (pp. 66-104).

Main, M., & Solomon, J. (1986). Discovery of an insecure-disorganized attachment pattern. In T. B. Brazelton & M. W. Yogman (Eds.), Affective development in infancy. (pp. 95-124). Norwood, NJ: Ablex Publishing Corp.

Main, M., & Stadtman, J. (1981). Infant response to rejection of physical contact by the mother: Aggression, avoidance, and conflict. Journal of the American Academy of Child and Adolescent Psychiatry, 20, 292-307.

Majumber, A. K., & Roy, A. B., (1962). Latent personality content of juvenile delinquents. Journal of Psychological Research, 1, 4-8.

Mak, A. S. (1990). Testing a psychological control theory of delinquency. Criminal Justice and Behavior, 17, 215-230.

Mak, A. S. (1991). Psychosocial control characteristics delinquents and non-delinquents. Criminal Justice and Behavior, 18, 287-303.

Maymam, M. (1967). Object representations and object relationships in Rorschach responses. Journal of Projective Techniques and Personality Assessment, 31, 17-24.

McCrone, E. R., Egeland, B., Kalkoske, M., & Carlson, E. A. (1994). Relations between early maltreatment and mental representations of relationships assessed with projective storytelling in middle childhood. Development and Psychopathology, 6, 99-120.

Meloy, J. R. (1988). The psychopathic mind: Origins, dynamics, and treatment. Northvale, NJ: Jason Aronson, Inc.

Montalto, F. D. (1952). Maternal behavior and child personality: A Rorschach study. Journal of Projective Technniques, 16, 151-178.

Nada Raja, S., McGee, R., & Stanton, W. R. (1992). Perceived attachments to parents and peers and psychological well-being in adolescence. Journal of Youth and Adolescence, 21, 471-485.

Parkes, C. M. (1982). Attachment and the prevention of mental disorders. In C. M. Parkes & J. Stevenson-Hinde (Eds.), The place of attachment in human behavior. (pp. 295-309). New York: Basic Books.

Paterson, R. J., & Moran, G. (1988). Attachment theory, personality development and psychotherapy. Clinical Psychology Review, 8, 611-636.

Pierce, G. (1978). The absent parent and the Rorschach "T" response. In E. J. Hunter and D. Nice (Eds.). Children of military families (Chapter 4). Washington D.C.: U.S. Government Printing Office.

Quay, H. C. (1987). Patterns of delinquent behavior. In H. C. Quay (Ed.), Handbook of juvenile delinquency. (pp. 118-138). New York: John Wiley, Inc.

Ray, A. (1963). Juvenile delinquency by Rorschach inkblots. Psychologia, 6, 190-192.

Raychaudhuri, M., & Maitra, A. K. (1965). A Rorschach study of normal, convicted and incipient delinquent adolescents. Rorschachiana Japonica, 8, 175-189.

Renken, B., Egeland, B., Marvinney, D., Mangelsdorf, S., & Sroufe, S. (1989). Early childhood antecedents of aggression and passive withdrawal in early elementary school. Journal of Personality, 57, 257-281.

Rey, J. M., & Plapp, J. M. (1990). Quality of perceived parenting in oppositional and conduct disordered adolescents. Journal of the American Academy of Child and Adolescent Psychiatry, 29, 382-385.

Rice K. G. (1990). Attachement in adolescence: A narrative and meta-analytic review. Journal of Youth and Adolescence, 19, 511-538.

Rorschach, H. (1942). Psychodiagnostics. New York: Grune & Stratton. (Original work published 1921).

Sampson, R. J., & Laub, J. H. (1994). Urban poverty and the family context of delinquency: A new look at structure and process in a classic study. Child Development, 65, 523-540.

Sandler, I. N., & Block, M. (1979). Life stresses and maladaption of children. American Journal of Community Psychology, 7, 425-440.

Schachtel, E. G. (1951). Notes on Rorschach tests of 500 juvenile delinquents and a control group of 500 non-delinquent adolescents. Journal of Projection Technology, 15, 144-72.

Schmidl, F. (1947). The Rorschach test in juvenile delinquency research. American Journal of Orthopsychiatry, 17, 151-160.

Shedler, J., Mayman, M., & Mannis, M. (1993). The illusion of mental health. American Psychologist, 48, 1117-1131.

Simons, R. L., Robertson, J. F., & Downs, W. R. (1989). The nature of the association between parental rejection and delinquent behavior. Journal of Youth and Adolescence, 18, 297-310.

Sinha, B., Singh, A. K., & Singh, S. K. (1986). Delinquents: An observation of their Rorschach protocols. Indian Psychological Review, 30, 4-8.

Snyder, J., & Patterson, G. (1987). Family interaction and delinquent behavior. In H. C. Quay (Ed.). Handbook of juvenile delinquency. (pp. 216-243). New York: John Wiley & Sons, Inc.

Spear, W. E. (1980). The psychological assessment of structural and thematic object representations in borderline and schizophrenic patients. In J. S. Kwawer, H. D. Lerner, P. M. Lerner, & A. Sugarman (Eds.), Borderline phenomena and the Rorschach test. (pp, 321-340). New York: International Universities Press, Inc.

Speiker, S. J. (1986). Patterns of very insecure attachment found in samples of high risk infants and toddlers. Topics in Early Childhood Special Education, 6, 37-53.

Speltz, M. L., Greenberg, M. T., & Deklyen, M. (1990). Attachment in preschoolers with disruptive behavior: A comparison of clinic-referred and non-problem children. Development and Psychopathology, 2, 31-46.

Sroufe, A. (1982). Infant-caregiver attachment patterns of adaptation in pre-school: The roots of maladaption and competence. In M. Perlmutter, (Ed.), Minnesota symposium in child psychology. (pp. 41-83). Minneapolis, MN: University of Minnesota Press.

Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. Child Development, 48, 1184-1199.

Stark, S. (1966). Role-taking, empathetic imagination and Rorschach human movement responses: A review of two literatures. Perceptual and Motor Skills, 23, 243-256.

Stayton, D. J. & Ainsworth, M. D. S. (1973). Individual differences in infant responses to brief, everyday separations as related to other infant and maternal behaviors. Developmental Psychology, 9, 226-235.

Steinberg, L. (1987). Familial factors in delinquency: A developmental perspective. Journal of Adolescent Research, 2, 255-268.

Stricker, G., & Healey, B. D. (1990). Projective assessment of object relations: A review of the empirical literature. Psychological Assessment: A Journal of Consulting and Clinical Psychology, 2, 219-230.

Tracy, R. L., & Ainsworth, M. S. (1981). Maternal affective behavior and infant-mother attachment patterns. Child Development, 52, 1341-1343.

Van Voorhis, P., Vullen, F. T., Mathers, R. A., & Garner, C. C. (1988). Impact of family structure and quality on delinquency: A comparative assessment of structural and functional factors. Criminology, 26, 235-261.

Wampold, B. E., & Freund, R. D. (1987). Use of multiple regression in counseling psychology research: A flexible data-analytc strategy. Journal of Counseling Psychology, 34, 372-382.

Ward, A. J. (1966). The meaning of movement responses and of its changes during therapy: A review. Journal of Pesonality Assessment, 30, 418-428.

Weber, C. (1990). Analysis of attachment through texture, human movement and human content Rorschach variables in inpatient conduct disordered and dysthymic adolescents. Unpublished doctoral dissertation, United States International University, San Diego, CA.

Weber, A., Meloy, J. R., & Gacono, C. B. (1992). A Rorschach study of attachment and anxiety in inpatient conduct-disordered & dysthemic adolescents. Journal of Personality Assessment, 58, 16-26.

Wells, L. E., & Rankin, J. H. (1988). Direct parental controls and delinquency. Criminology, 26, 263-285.

Widom, C. S. (1989a). Child abuse, neglect, and adult behavior: Research design and findings on criminality, violence and child abuse. American Journal of Orthopsychiatry, 59, 355-367.

Widom, C. S. (1989b). The cycle of violence. Science, 244, 160-166.

Willock, B. (1986). Narcissistic vulnerability in the hyperagressive child: The disregarded (unloved, uncared-for) self. Psychoanalytic Psychology, 3, 59-80.

Willock, B. (1987). The devalued (unloved, repugnant) self: A second facet of narcissistic vulnerability in the aggressive, conduct-disordered child. Psychoanalytic Psychology, 4, 219-240.

Winnicott, D. W. (1958). Collected papers. New York: Basic Books.

Winnicott, D. W. (1965). The maturational processes and the facilitating environment. New York: International Universities Press, Inc.

Wood, J. M., Nezworski, M. T., & Stejskal, W. J. (1996). The comprehensive system for the Rorschach: A critical examination. Psychological Science, 7, 3-10.

Zager, R., Arbit, J., Hughes, J. R., Bussell, R. E., & Busch, K. (1989). Developmental and disruptive behavior disorders among delinquents. Journal of the American Academy of Child and Adolescent Psychiatry, 28, 437-440.