ABUSE AND SOCIALIZATION AS PREDICTORS OF

JUVENILE AND ADULT CRIMINAL BEHAVIORS

by

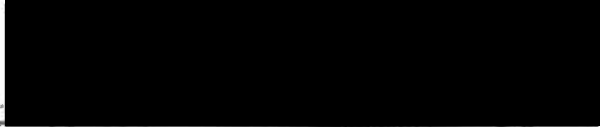Daniel K. Kamada, R.N., B.S.N.

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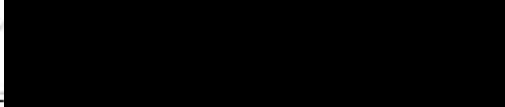
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A Thesis

Presented to
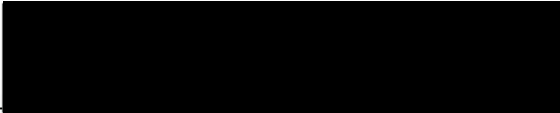The Oregon Health Sciences University
School of Nursing
in partial fulfillment
of the requirements for the degree of
Master of Nursing

December, 1988

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Acknowledgements

There are a number of individuals who were involved with the undertaking and completion of this thesis. Our sincere appreciation is extended to Mary Catherine King for the generous loan of your original research, computer assistance, patient guidance, unrequited kindness, and availability. Our thanks and love to Patty Dingman for your patient support, expert guidance, structured encouragement, and unrelenting perseverance towards our completion of this project. We especially thank you for your many selfless editorial hours in the development of this thesis. Words are inadequate in expressing our gratitude. Our thanks and farewell to Florence Hardesty who demonstrated such devotion towards our graduate education and completion of this long project. Thank you for believing in our potential to finish this program and your encouragement and advocacy on our behalf. Our lives are richer for having been acquainted with you. We wish you well on your retirement and will never forget your involvement. Finally, we wish to thank Joanne Hall for your hours of critical reading of our thesis drafts and committee work.

TABLE OF CONTENTS

Appendices

Appendix A
    Juvenile and Adult Seriousness of Crime Index

Abstract

LIST OF TABLES AND FIGURES

Chapter 1

INTRODUCTION

While much of society's problem-solving energy and finances are spent on dealing with juvenile offenses as they occur, there is growing recognition of the need to determine the etiology of the problem and intervene in a preventative manner.

The literature of the past two decades has focused on isolating those variables associated with delinquency. While most researchers agree on the multidimensional nature of juvenile delinquency, much of the research has been univariate, exploring the relationship between one variable and juvenile delinquency. Those researchers who have studied the multidimensional aspects of juvenile delinquency have found a strong conceptual link between mental health problems and the development of delinquent behavior (Hanson, Henggler, Haefele & Rodick, 1984; Hollander & Turner, 1985; King, 1987; Tarter, Hegdus, Winsten & Alterman, 1984).

King (1987), found that the diagnosis, Conduct Disorder, sub category, Undersocialized-Aggressive type (Diagnostic and Statistical Manual, Third Edition, DSM III), was a major clinical predictor of criminal behavior in both juveniles and adults. While much of the literature attempts to understand criminal patterns within the conceptual context of aggression, King's (1987) findings suggested a strong relationship to the concept of socialization. Also, a second strong predictor of criminal

behavior in King's work was that of abuse and neglect as children.

The purpose of this study is to examine the relationship of the family variables of neglect and abuse to the socialization factor of the Conduct Disorder, and subsequent criminal behavior. This was accomplished through a secondary analysis of this aspect of King's (1987) data on clinical and family predictors of juvenile and adult criminal behavior.

Significance of the Study

The significance of this research to mental health nursing is that it explores a potential connection between the developmental process of socialization and subsequent criminal behavior. Since nursing interventions are based on etiological understanding of phenomena, this study may help guide future interventions aimed at prevention of juvenile and adult criminal behavior. Nurses are in a unique position for intervention, having both the opportunity and the fund of knowledge to identify infants, children and adolescents at risk for becoming delinquent. One study found that 57% of delinquents (vs. 20% for nondelinquents) had significant contact with the health care system throughout their development (Palfrey, Karniski, Clarke, Tomaselli, Meltzer & Levine, 1983). Penner's (1982) review of the literature revealed that health problems in the areas of optometry, audiology, neurology, and pediatric medicine were clearly and significantly linked to juvenile delinquency.

With the exception of King (1987) and Mowery (1988) study, the nursing literature has not addressed the problem of the delinquent juvenile population. This present study was drawn from King's work with the intent of expanding the scope of nursing research and the knowledge base for clinical practice.

Review of the Literature

The scope of the problem under study requires an understanding of the literature in four areas: 1) the developmental processes of attachment and socialization; 2) the effects of child abuse and neglect on attachment and socialization; 3) predictors of juvenile and adult criminal behavior; and 4) the relationship among conduct disorder, psychopathology and juvenile delinquency.

The Developmental Processes of Attachment and Socialization

Attachment and its developmental successor, socialization have been studied extensively. Attachment is a precursor to later social relationships. Theorists speculate that attachment starts during infancy, is influenced by other humans, and develops into a generalized pattern of behavioral responses known as socialization (Rutter, 1979b).

Attachment is a process which is understood within a dyadic relationship. Attachments are not limited to mother-child relationships but include any important relationship in the child's early life. All attachments are similar in that they

provide comfort and security but there is usually a marked
hierarchy in attachment figures with the mother at the top
(Wolkind & Rutter, 1985; Rutter, 1981). The tendency to develop
selective attachments is a strong one, and if absent in the family
setting, infants and toddlers will develop attachments with any
available caregiver (Cicchetti & Beeghly, 1987; Robertson &
Robertson, 1971). The key influence in the attachment process is
the quality of the reciprocity between the parent (or attachment
figure) and the infant-child (Egeland & Sroufe, 1981a, George &
Main, 1979).

Bowlby (1951) provided the first systematic study of child
attachment. Using children admitted to hospitals and residential
care facilities, he studied the psychological effects of early
separation. His data revealed that early separation could result
in a variety of psychiatric disorders which persisted into adult
life. These disorders ranged from anxiety and depression to
psychopathic personalities (Bowlby, 1969, 1959).

Developmental literature since Bowlby's early work has shown
that the context and circumstances of the separation are more
important than the mere fact that the parent and child are not
proximally together. The quality of the relationship from which
the child is removed and the quality of care during the separation
are the critical features to separation outcomes (Campos, Barrett,
Lamb, Goldsmith, & Stenberg, 1983; Emde & Harmon, 1982; Macoby,

1980; Parkes & Stevenson-Hinde, 1982; Rutter, 1981, 1979a; Schaeffer, 1971; and Sroufe, 1979a). Also the literature consistently concludes that children may be damaged by seriously disturbed patterns of parent-child interactions in the absence of any separation (Cicchetti & Beeghly, 1987; Cicchetti & Rizley, 1981; Egeland & Sroufe, 1981b; Green, 1978; Kinard, 1980, 1982; Rutter, 1985; Straker & Jacobson, 1981).

The extent to which the quality of selective attachments in infancy predicts adult social-emotional functioning and a capacity for relationships is not clear. Wolkind et al (1985) state that no unequivocal answer to that question is possible because measures of security of attachment have been available too short a time for any linkage with adolescent/adult status. However, a substantial body of evidence shows that discordant/disruptive family relationships in early life coupled with a marked lack of parental affection are associated with a substantially increased likelihood of both affective disturbances and personality disorders in adulthood (Parker, 1983; Quinton & Rutter, 1984; Rutter, 1985; Wolkind & Kruk, 1984). The experience of secure specific attachments in infancy fosters self-esteem, self-efficacy, and autonomy, and predisposes an individual to react to stressful experiences in an adaptive way (Bowlby, 1980, 1973; Wolkind et al, 1985).

The process of socialization involves the development of a person who is sensitive to the rights and needs of others. Socialization is perceived as an outgrowth of the attachment process. The experience of being accepted, loved and cared for during the attachment process leads to the development of the capacity for reciprocal affection, loyalty, and self-sacrifice in the interests of others (Jenkins, Heidemann, & Caputo, 1985). Theories of child development have traditionally emphasized the role of the family in the process of socialization. The child's initial experiences with the social disapproval of affect and behavior occur in the family. The precursors of perspective-taking and other forms of social reality testing also initially occur within the family (Flavell & Flavell, 1977). Unfortunately, little research has been done in connecting attachment phenomena to expanded demonstrations of socialization. The socialization literature generally describes developmental levels and hypothesizes that faulty attachments contribute to developmental delays of antisocial behavior. The operationalizational difficulties involved in connecting early attachment experiences to later social behavior is a major methodological obstacle. The literature related to child abuse often touches on socialization issues and will be explored in the next section.

How selective attachment is generalized to peers and with what socialization outcomes have not been reported. Observational

studies have demonstrated that peer interactions proceed from simple organizations in early childhood to complex hierarchies, and from primitive awareness of the needs of others to use of complex social attributions (Hartup, 1979).

The research done in the schools has generally focused on the conflict between the school and other social worlds of the child (family and peers). The socialization processes involving school and the child have received much less attention (Rutter, 1981). Bieglow (1977) identified developmental changes in expectations that children have of their friends. Grades two and three demonstrate a reward-cost model of interaction. There is an emphasis of common activities, close social contact, and similarity in outlook. In grades four and five the emphasis shifts to normative experiences which stress shared values, rules and sanctions. By grades six and seven, peer relationships become emphatic, and are based on understanding, self-disclosure and shared interests.

In summary, attachment and socialization are both complex multidimensional processes. The literature suggests that both reciprocity and the quality of family/caregiver relationships are critical in the process of attachment. How the selective attachment process is linked to alter socialization is not well known. However, it is generally accepted that successful attachment is a necessary precursor for normal socialization and

that difficulty with the attachment process manifests itself in a variety of psychiatric symptoms which can persist into adult life.

The Effects of Child Abuse and Neglect on Attachment and Socialization

The effects of child abuse and neglect have been studied extensively. Maltreated children are described clinically as extremely dependent, overly compliant, slow to develop self-confidence, extremely anxious to please others and hypervigilant to external cues (Martin & Beezley, 1977). These authors observed 50 abused children, ages 2-13 years. Nine dimensions seemed to characterize the children and include: 1) an impaired ability to enjoy life; 2) low self-esteem; 3) symptoms indicative of emotional turmoil, such as enuresis, poor peer relationships, tantrums, sleep disturbances, hyperactivity, and socially inappropriate behaviors; 4) withdrawal; 5) oppositional behavior; 6) hypervigilance; 7) compulsivity; 8) pseudo-adult behavior; and 9) learning problems. Similar results were reported by Kline (1977). Studies also consistently report lowered intelligence, and delays in language in both preschool and school aged children (Barahal, Waterman, & Martin, 1981; Blager & Martin, 1976; Cicchetti & Beeghly, 1987; Lynch, 1978; Martin & Rodheffer, 1976).

In an important prospective study by Egeland and Sroufe (1981a), mother-infant pairs where abuse was present were compared on a variety of behaviors, including attachment outcome, with

mother-infant pairs where no abuse was present at 3, 6, 9, 12, 18, and 24 months. The abused infants were characterized by a significantly lower proportion of secure attachment, and evidenced declines in psychological functioning over time. The children of psychologically unavailable mothers seemed to have the most malignant and pervasively negative outcome, while it appeared that the addition of physical abuse to the psychological unavailability actually results in a less negative outcome. Apparently, some contact, even if aversive, was better than no contact at all. The authors stated that one of the important findings of the study was the pattern of declining functioning in maltreated children. From relatively normal developmental levels at 9 months, these children appeared very delayed at 24 months.

Conte and Schuerman (1987) reported that in addition to factors specific to the nature of the sexual abuse, the degree of unhealthy family functioning was a significant variable in predicting the negative effects of child sexual abuse. Likewise, when the child had a supportive relationship with a non-offending adult or sibling, the effects were less and a more positive psychological adjustment was achieved (Fromouth, 1986; Conte, et al., 1987).

George and Main (1979) investigated the social interactions of abused preschoolers with their peers and teachers. All of the abused children, but none of the controls were observed to respond

to peer affiliations with approach-avoidance behavior. While aggression towards peers was comparable between the two groups, aggression towards the teacher was significantly higher in the abused children group. Over half of the abused sample physically assaulted or threatened to assault the teacher, whereas no control children exhibited these harassing behaviors towards the teachers.

In a more recent study, Main & George (1985) examined the responses of abused and disadvantaged toddlers to distress in their agemates in a daycare setting. The abused toddlers showed no concern, empathy, or sadness in response to the distress of an agemate. In fact, like abuse parents, the abused toddlers frequently reacted to another's distress with fear, physical attacks or anger.

Physically and sexually abused children tend to be more aggressive (Green, 1978; Kent, 1976; Kinnard, 1980; Tong, Oates, & McDowell, 1987) whereas neglected children tend toward social withdrawal (Egeland, Sroufe, & Erickson, 1983; Green, 1978; Kent, 1976). However, a study by Reidy (1977) found both the abused and neglected children were more aggressive than the control children. In addition, Green's (1978) study also found that abused children were more self-destructive than either of the other two groups. The self-destructiveness seemed to follow parental assault or threatened actual separation from caregivers.

Aggression is an action defined as behavior with the intent to inflict psychological or physical harm on another (Berkowitz, 1974). Intent is necessary in the conceptualization of aggression. The literature on the subject is abundant and will not be reviewed here. The etiology of aggression is accepted as a complex mixture of constitutional factors, chromosome-hormone involvement, learned behaviors, mimicking, underdeveloped psychological inhibitors, instinctual drives, and sex role socialization (Shaffer, Meyer-Bahlburg, & Stokman, 1981).

Barahal et al. (1981) compared the cognitive styles of abused children with a carefully matched control group. These children were assessed on locus of control, social sensitivity, perspective taking, social role concepts, and moral judgment. Significant differences were noted on locus of control and understanding social roles, with maltreated children having little confidence in their power to shape their experiences and appearing less able to understand subtle and complex interpersonal relationships.

Kinard (1980) compared 30 abused children (ages 5-12) with 30 nonabused children on self-concept, aggression, socialization with peers, establishment of trust and separation from the child's mother. The abused children were significantly more self-critical (extrapunitive) than the nonabused children on a frustration task, yet did not differ in overall self-concept. Abused children also

showed a significant decrease in their motivation for socialization. In a later study with the same sample, Kinard (1982) found that the severity of abuse was directly related to the degree of aggression evident in psychological testing.

Lewis, Shanok, Pincus & Glaser (1979) did a retrospective study of 97 violent juvenile delinquents comparing extremely violent and less violent incarcerated boys. They found that 75.4% of the more violent children had been physically abused compared with 33.3% of the less violent boys. In addition, 78.6% of the more violent children were known to have witnessed extreme violence directed at others, mostly in their homes, compared with 20% of the less violent group. The child's degree of violence was strongly correlated with his having been abused.

In a study of 101 delinquent adolescents, Tarter, Hegedus, Winsten & Alterman (1984) found that physically abused delinquents differed from non-physically abused delinquents in a number of ways. Abused delinquents performed poorer on certain intellectual, educational and neuropsychological measures. Cognitive impairments were primarily verbal or linguistic processes. In addition, abused delinquents were more likely to commit assaultive crimes.

Overall, maltreated children have demonstrated a lower proportion of secure attachment, a higher incidence of aggressive behavior, lower intelligence, and a lack of empathy when compared

to nonmaltreated children. All of these factors ill-equip the children to cope with the developmental process of socialization.

<u>Predictors of Juvenile and Adult Criminal Behavior</u>

King (1987) conducted a comprehensive study on the predictors of juvenile and adult criminal behavior. Since this current study was a secondary analysis of a portion of the data collected by King (1987), her study is reviewed extensively. However, literature reviewed by King has not been reconsidered.

Using a retrospective correlational design, King (1987) explored the relationship among fifteen clinical, individual and family variables of urban juvenile offenders. These variables were then examined in relation to the crimes committed both as juveniles and adults. King's research questions were:

"What are the relationships between the Conduct Disorder and other individual family variables, the number and seriousness of crimes committed as juveniles and adults, and the decision for remand? Are there individual and family variables that can predict the number and seriousness of crimes committed as juveniles; that can predict the likelihood of remand to the adult court; and that can predict the number and seriousness of crimes committed as adults?" (Abstract)

Mowery (1988) has summarized King's descriptive findings in Table 1. King (1987) found that 220 subjects (N=221) met the DSM III criteria for Conduct Disorder. Of those, only 4.5% had evidence of a Conduct Disorder in the absence of other clinical factors and/or abuse. Eighty seven percent of the subjects demonstrated at least one other clinical disorder in addition to Conduct Disorder. These included thought disorder, depression, drug abuse, alcohol abuse, IQ <85, attention deficit disorder and learning disorder. Three of these variables (neglect, lower IQ and learning disorder) were shown to have a significant relationship with the Conduct Disorder subgroups, specifically the Undersocialized-Aggressive and Undersocialized-Nonaggressive types.

While all Conduct Disorders were statistically significant in predicting adult criminal behavior, the Undersocialized-Aggressive subtype was found to be the most significant in relationship to the severity and extent of criminal behavior for both juvenile and adults. Interestingly, when subjects with Conduct Disorders other than the Undersocialized-Aggressive type did commit crimes as adults, they were likely to have a history of drug and/or alcohol abuse.

Nearly two-thirds of the subjects in the study experienced some form of child abuse and 95% of them came from families who were unable to provide adequate supervision. Drug abuse was found

Table 1

Summary of King's Descriptive Findings (Mowery, 1988)

Age at first offense	13.2M		

Last Known Residence	%	Criminal History	%
Single parent home	46.2	Offenses prior to 18	12.38M
Two parent home	18.6	Felony A crimes	70.1
Step parent home	22.2	Juvenile seriousness	
Foster home	5.4	index	58.75M
Alone or with relatives	7.7	Adult criminal record	72.0
		>5 crimes 5 yrs. age 18+	51.5
Supervision History	%	Felony A or B	52.2
Adequate supervision	4.1	Adult seriousness	39.87
No supervision	67.9	index	
Inconsistent supervision	28.1		
		Known Abuse History	%
Education	%	Physical abuse	23.1
GED	35.2	Emotional abuse	17.2
Completion of diploma	N=1	Sexual abuse	<1.0
		Neglect	52.5
		No mention of abuse	37.7

Table 1. (continued)

Clinical Disorders	%		%
Undersocialized aggressive CD	57.5	Thought disorder	5.0
		Depression	18.6
Socialized aggressive CD	13.1	Drug abuse	53.4
Undersocialized nonaggressive CD	22.6	Alcohol abuse	33.0
		IQ <85	14.9
Socialized nonagressive CD	6.3	Attention deficit disorder	22.6
No Conduct Disorder	0.5	Learning disorder	18.1
Conduct Disorder only	4.5	Other	11.8
Conduct Disorder w/abuse	7.7		
Conduct Disorder w/other disorder	33.6		
Conduct Disorder w/other & abuse	53.9		
Abuse only	0.4		

in over half of the subjects while alcohol abuse was present in one-third of them.

When all of the individual, clinical and family variables were explored independently for their ability to predict adult criminal behaviors, only Conduct Disorder was statistically significant. Specifically, Undersocialized-Aggressive Conduct Disorder was predictive of all aspects of severity and number of juvenile and adult criminal behaviors (King, 1987).

King (1987) also used multiple regression and discriminate function analyses in an attempt to identify a combination of variables that would predict both juvenile and adult criminal behavior. This approach recognized the multivariate nature of criminal behavior. In addition to Conduct Disorder, variables of significance in predicting juvenile criminal behavior included learning disorder, depression and age of first offense. The significant variables in predicting adult criminal behavior included age of first offense, physical abuse, sexual abuse, substance abuse and the seriousness of juvenile crimes. How these variables are related to the subcategories of Conduct Disorder requires further investigation. This study pursues an understanding of the relationship among child abuse/neglect, the socialization and aggression factors in Conduct Disorder, and juvenile and adult criminal behavior.

The Relationship Among Conduct Disorder, Psychopathology and
Juvenile Delinquency

Conduct Disorder is described as persistent patterns of
deviant behaviors in children and adolescents (DSM III). The
essential feature is the violation of societal rules or norms in
relation to age appropriate expectations. Four subcategories are
included in the diagnosis. They are: 1) Socialized-Aggressive
(S/A); 2) Socialized-Nonaggressive (S/N); 3) Undersocialized-
Aggressive (U/A); and 4) Undersocialized-Nonaggressive (U/N).
These terms will be described briefly, followed by a review of the
literature connecting Conduct Disorder and juvenile delinquency.

The Socialized individual in the Conduct Disorder category
demonstrates evidence of attachment to several others but may be
callous or manipulative towards those considered 'outsiders.'
Likewise, they lack guilt responses when nonattached individuals
are suffering. Such limited attachments and stark
differentiations towards the rights of others are often seen in
gang relationships.

The Undersocialized individual is characterized by a failure
to establish a normal degree of affection, empathy, and bonding
with others. While they may have some superficial contact with
peers, such relationships are usually absent. These children will
not extend themselves to others unless an obvious immediate
advantage exists. Egocentric behaviors are demonstrated by a

readiness to manipulate others without any intent to reciprocate. These individuals generally lack concern for the feelings, wishes, and well-being of others. Guilt responses are infrequent to absent. The denial of responsibility, blaming of others, or informing on peers to escape retribution is common for this type of individual.

The Aggressive child in the Conduct Disorder category is characterized by a repetitive and persistent pattern of aggressive conduct. The use of the term aggression is limited to the violation of the rights of others with physical violence against persons or thefts involving confrontation with victims. This may include violent acts such as rape, muggings, assaults, and homicides.

The Nonaggressive individual in the Conduct Disorder classification demonstrates a pattern of behaviors that do not involve physical violence against victims. These individuals engage in a persistent pattern of conduct which is in conflict with age appropriate social expectations or rules. Examples of such conflict may include persistent truancy, substance abuse, runaway behaviors, chronic fabrications of facts, vandalism, fire setting, and stealing in situations not involving confrontation with the victim.

DSM III lists predisposing variables associated with both Socialized Conduct Disorder and Undersocialized Conduct Disorder.

The variables for Socialized Conduct Disorder include large family size, association with a delinquent group, an absent father, or a father with an alcohol dependence. The factors listed for Undersocialized Conduct Disorder are Attention Deficit Disorder, parental rejection, inconsistent guidance with harsh discipline, early institutional living, frequent shifting of parental figures (foster parents, relatives, or step parents), and being an illegitimate only child.

The recent revision of DSM III, Diagnostic and Statistical Manual, Third Edition, Revised (DSM III-R, 1987), has changed the Conduct Disorder classification. Whereas previously, individuals were categorized utilizing both socialization and aggression concepts, the revised categorization assumes the aggression component. This classification, then, does not recognize the Undersocialized Non-aggressive category of DSM III. The new Conduct Disorder contains three categories: Solitary Type, Group Type, and Undifferentiated Type. The difference between Solitary Type and Group Type is the number of others in delinquent association with the diagnosed individual. The diagnostic emphasis assumes aggression in all three types and focuses on the presence or absence of group affiliations. Within the Group type, there is no clear distinction between individual and group influences on delinquent behavior.

Henn, Bardwell, and Jenkins (1980) studied the subsequent criminal activities of 286 delinquent boys after they were classified as one of the four conduct disorder subgroups of the DSM III. A ten year follow-up study determined that socialized delinquents were much less likely to be convicted of a crime or imprisoned regardless of the evidenced aggression in their juvenile crimes. Undersocialized Aggressive adolescents were much more likely to be involved in crimes of violence than those individuals from the other subcategories. The researchers found equal number of socialized and undersocialized delinquents.

Kashani, Horwitz, and Daniel (1982) also used the DSM III classification in a descriptive study of 120 delinquent boys. Three-fourths of their sample was classified as socialized and one-fourth undersocialized. Several significant differences were found between the socialized and undersocialized groups. The socialized group tended to have been developed intellectual abilities, especially in verbal skills. The undersocialized aggressive group had a significantly lower Performance IQ than the other three groups.

In a study by Williams, Bean, Carlson, and Christopherson (1985) the DSM III conduct disorder classification was used to examine the outcome adjustment of adolescents admitted to a State Hospital Inpatient Psychiatric program. This study was based on Henn et al.'s (1980) findings that socialized conduct disorders

had better outcomes than undersocialized conduct disorders. The study included 119 adolescents admitted to a 20-bed adolescent inpatient psychiatric unit of a state hospital. Although there were no significant differences between the subtypes and success or failure one year after discharge, there was a tendency for the Undersocialized-Aggressive Conduct Disorder to be less successful. In addition to the conduct disorder classification, they also identified other psychiatric diagnoses including psychosis, affective disorders, organize syndromes, adjustment reactions, substance abuse, and personality disorders.

McManus, Alessi, Grapetine, and Brickman (1984) interviewed 120 seriously delinquent adolescents and identified 90% of them as having a Conduct Disorder. Over half of the sample had multiple psychiatric diagnoses including substance abuse/alcoholism, borderline personality disorder, and major/minor affective disorder in addition to the Conduct Disorder. Sixty-nine percent were assigned a diagnosis of Aggressive Conduct Disorder and 45% were assigned Undersocialized Conduct Disorder diagnoses. Subjects with Borderline Personality Disorder were significantly more likely to receive an Aggressive Conduct Disorder, and also more likely to be undersocialized.

Hollander and Turner (1985) likewise surveyed 200 consecutively admitted incarcerated male juvenile offenders and found that in addition to the diagnoses of Conduct Disorder, 47%

also had borderline IQ's, 34% had overlapping symptoms of
schizotypal, paranoid and borderline disorders, and 18.8% had
specific developmental disabilities and/or attention deficit
disorders. The diagnosis of Undersocialized Conduct Disorder was
significantly associated with borderline IQ. This same
combination in conjunction with a personality disorder was
significantly associated with violent crime.

Thus, the literature supports the notion that the link among
Conduct Disorder, psychopathology and juvenile delinquency is
strong. In addition, the Undersocialized Aggressive Conduct
Disorder has been shown to have the poorest outcomes. To date,
the utility of the new DSM III-R categories for Conduct Disorder
has not been tested.

Summary of the Review

There is substantive evidence that a range of family and
individual clinical variables correlate with delinquent patterns.
Patterns of abuse, lack of supervision, clinical patterns of an
Undersocialized-Aggressive Conduct Disorder, lower intelligence,
learning disorders and drug and alcohol problems are presented
with some consistency throughout the research literature. Yet,
which variables are most predictive and how these variables
interact remains in questions.

Conceptually, the particular interest in the Conduct
Disorders category may stem in part from its associated behavioral

descriptors, and the fact that it may indirectly tap some of the other significant variables addressed thus far. For example, the socialization component of the Conduct Disorder may reflect factors related to parenting and/or individual diagnostic variables of a developmental nature or of a psychiatric nature that prevent/inhibit the development of social skills. This may have utility from both a clinical and judicial perspective, in that it serves as a major predictor.

Conceptual Framework

As indicated, this study focuses on the impact of child abuse on the process of socialization and subsequent criminal behavior in a delinquent population. The conceptual framework for this study is based on the review of the salient literature. It utilizes a developmental framework based on a model proposed by Houck and King (1988) and additionally reflects the emergence of Conduct Disorder and presence or absence of subsequent criminal behavior (see Figure 1).

In this conceptual framework, both child and parent potentiating factors are recognized. The factors related to the child include presence/absence of organic problems such as neurological deficits, predisposition to aggression, attention deficit, and presence/absence of child psychopathology. Parent factors include quality of the marital relationship/absence of psychopathology, alcohol/drug abuse, adequacy of social support,
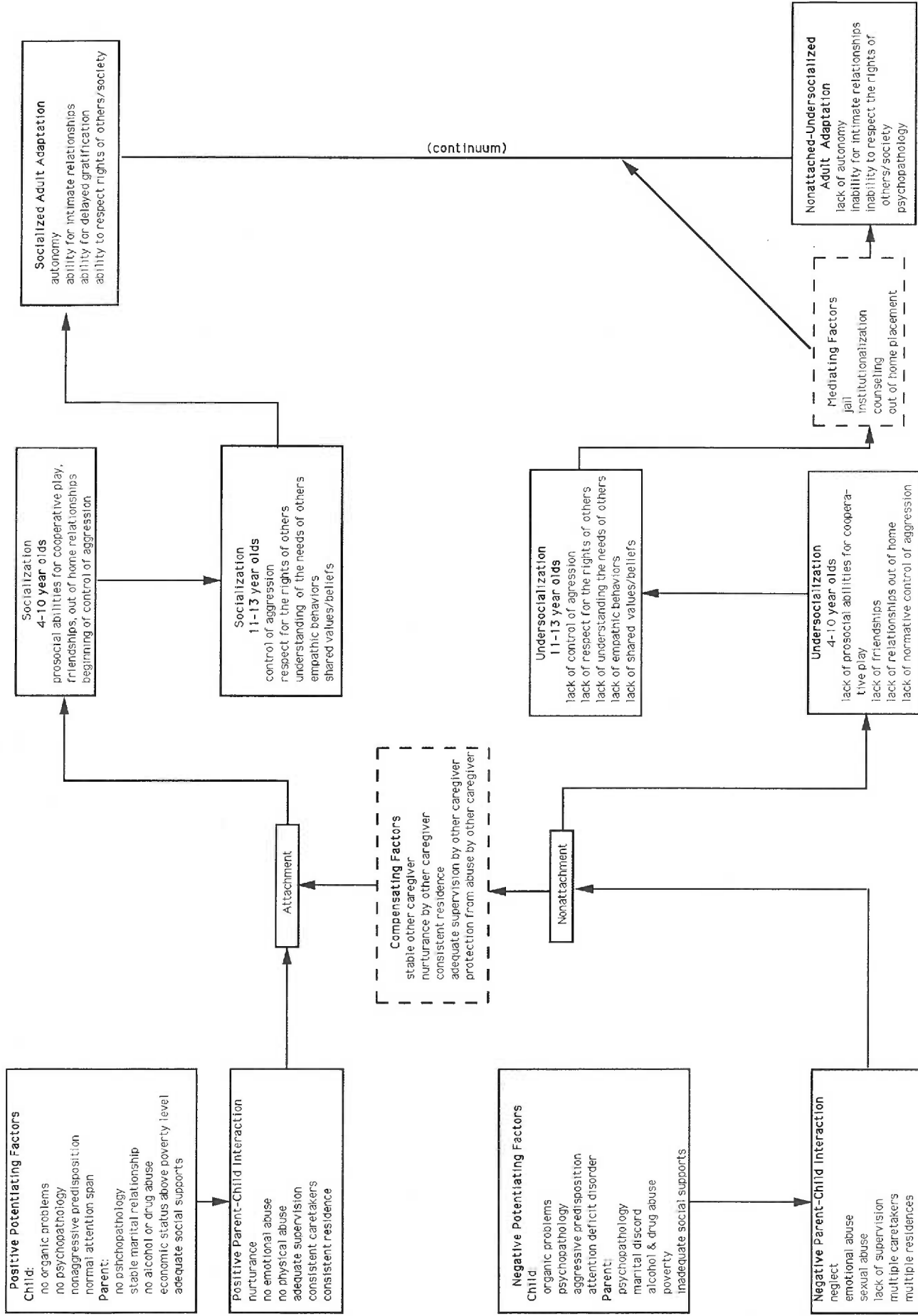
Figure 1. Conceptual Model

and economic status. In addition, the following parent-child interaction patterns are seen as negatively effecting the attachment process: neglect; emotional, physical and sexual abuse; lack of supervision; lack of parental affection; multiple caretakers; and multiple residences. Factors that can compensate for a negative parent-child interaction include a stable other caregivers, nurturance by another caregiver, a stable residence, adequate supervision by another caregiver, and protection from abuse by another caregiver. All of these factors contribute to the child's ability or inability to successfully negotiate the attachment process. As the child grows, children who have achieved selective attachment will begin the socialization process. Children who have achieved inadequate attachment will have difficulty with the socialization process. Developmentally normal 4 to 10 year olds will demonstrate pro-social abilities for cooperative play, friendships, out of home relationships, and beginning control of aggression. Nonattached undersocialized 4 to 10 year olds will not demonstrate these abilities. Socialized 11 to 13 year old children will further demonstrate respect for the rights of others, control of aggression, empathic behavior, shared values/beliefs, and an understanding of the needs of others. Nonattached undersocialized 11 to 13 year olds will behave in an egocentric manner with no respect for the rights of others, and no empathic understanding of their needs (Houck and King, 1988).

Mediating factors such as counselling, out of home placement, institutionalization or jail may impact the child's ability to successfully negotiate the attachment and socialization processes. Socialized adult adaptation is demonstrated by a sense of autonomy, an ability for intimate relationships, the ability to delay gratification, and respect for the rights of others and society. Nonattached undersocialized adult adaptation is manifested in a lack of these abilities and/or psychopathology.

Differences from the King Study

The King (1987) study used the four subcategories of the Conduct Disorder in correlations against various clinical and family variables. This study reconfigured the four subcategories into two variables, socialization and aggression. The socialization variables therefore included both the aggressive and non-aggressive subcategories. Likewise, the aggression variable included both the socialized and undersocialized subcategories. Socialization and aggression were then correlated with abuse.

Kings study examined neglect, emotional abuse, physical abuse, and sexual abuse as individual variables in the predictive formula for juvenile and adult crimes. This study combined those four variables into a single abuse category and tested its ability to predict juvenile and adult criminality. With these described variations, this study examined the following research questions:

1. To what extent is abuse correlated with the socialization factor of the Conduct Disorder?

2. To what extent is abuse correlated with the aggression factor of the Conduct Disorder?

3. Is abuse one of the variables in the predictive formula for juvenile and adult crimes?

Hypotheses

The hypotheses related to the first research questions are:

A. Emotional abuse will correlate significantly with the socialization factor of the Conduct Disorder.

B. Physical abuse will correlate significantly with the socialization factor of the Conduct Disorder.

C. Sexual abuse will correlate significantly with the socialization factor of the Conduct Disorder.

D. Neglect as an abuse category will correlate significantly with the socialization factor of the Conduct Disorder.

E. When the emotional, physical, sexual and neglect components of abuse are combined, they will correlate significantly with the socialization factors of the Conduct Disorder.

The hypotheses related to the second research question are:

A. Emotional abuse will not be correlated significantly with the aggression factor of the Conduct Disorder.

B.   Physical abuse will not be correlated with the aggression component of the Conduct Disorder.

C.   Sexual abuse will not be correlated with the aggression factor of the Conduct Disorder.

D.   Neglect will not be correlated with the aggression factor of the Conduct Disorder.

E.   When the emotional, physical, sexual and neglect components of abuse are combined, they will not significantly correlate with the aggression factor of the Conduct Disorder.

The hypotheses related to the third research question are:

A.   When the emotional, physical, sexual and neglect components of abuse are combined, they will contribute to the predictive formula for juvenile crimes.

B.   When the emotional, physical, sexual and neglect components of abuse are combined, they will contribute to the predictive formula for adult crimes.

Chapter II

METHODS

Research Design

This study was a secondary analysis of selected aspects of
King's (1987) ex post factor multivariate correlational study on
juvenile predictors of criminal behavior. Specifically, the
relationship among abuse, Conduct Disorder, and juvenile and adult
criminal behavior was explored.

Subjects

Subjects for both this study and its parent study were chosen
from MacLaren School for Boys (MSB) which is utilized for
commitment of adolescents who have committed an extensive number
of crimes. The sample included all males admitted to Multnomah
County Juvenile Justice System and committed to MSB between
January 1, 1978 and December 31, 1980.

King's procedure involved obtaining the names and ages of
Multnomah County adolescents from the MSB admission records
resulting in 276 names. These names were then submitted to
Multnomah County Juvenile Justice System who provided the
adolescents' files. Twenty cases had been destroyed because of
subjects having turned 25 years of age. Seventeen files could not
be located possibly due to incorrect name spelling or other
erroneous data. The process resulted in 236 names for which files
were obtained. Of this group, fifteen subjects appeared to have

left the State thus invalidating them for study. The remaining 221 subject names and birthdates were then submitted to the Oregon State Police who provided the adult criminal records of crimes committed in Oregon.

Protection of Human Subjects

The current study was submitted to the Human Subjects Committee of the Oregon Health Sciences University for approval under the exemption category. In accordance with the National Institute of Health Guidelines, King's (1987) information was gathered in a manner which did not allow the identification of subjects. This study used only numerical data from the King (1987) study.

Independent Variables

The independent variables chosen for the current study were derived from King's (1987) results which demonstrated that delinquency is correlated with a wide range of individual clinical, family, and legal variables.

The independent variables in this study are as follows:

1. The Socialization/Undersocialization factor of the Conduct Disorder.

2. The Aggression/Nonaggression factor of the Conduct Disorder.

3. History of emotional abuse.

4. History of physical abuse.

5. History of sexual abuse.

6. History of neglect.

7. The combination of neglect and emotional, physical and sexual abuse as a single abuse category.

King utilized DSM III behavioral descriptions to categorize subjects within the Conduct Disorder categories. The subjects were judged undersocialized if the file reflect a failure to establish normal degrees of affection, empathy, or bonding, as exhibited by lack of peer group friendships, lack of loyalty or blaming behaviors, and/or lack of concern for others. Aggression was established when the rights of others, either through physical violence to persons or property, or theft involving the confrontation with victims was present. Nonaggression was established when the basic rights of others were violated through infractions of rules, lying, running away, or stealing that did not involve the confrontation with the victim.

Other independent variables, not formally explored in the current study, but used in King's (1987) study, and retained in the exploration of predictors included:

1. Age of first offense

2. Extent of supervision

3. Completion of G.E.D.

4. Depression

5. Thought Disorder

6. Attention deficit disorder

7. Learning disability

8. Drug abuse

9. Alcohol abuse

Dependent Variables

The dependent variables in this study included the following:

1. The number of offenses committed as a juvenile.

2. The seriousness of the offenses committed as a juvenile.

3. The number of offenses committed as an adult.

4. The seriousness of offenses committed as adults.

King (1987) created a weighting system or seriousness index isomorphic with legal penalties and used this to determine to relative gravity of the criminal history. (See Appendix A.)

Validity Threats

Internal Validity

History, maturation, and instrumentation are internal validity threats that apply to this retrospective secondary analysis (Polit & Hungler, 1983). The validity threats discussed in King's (1987) study also apply to this study.

In terms of history, it is certainly reasonable to question whether the independent variables are, in fact, the ones influencing the dependent variable. It is possible that other intervening forces may have significantly influenced the outcomes.

Maturation is of particular concern given that the study involves adolescents and attempts to draw correlations with adult behaviors. It is impossible to know the maturational shifts and diagnostic transitions that may have occurred for some subjects as adults. Since King's (1987) data was complete through 18 years of age for all subjects, it seems likely that the clinical pattern would be relatively stable and permanent by that time.

Instrumentation must always be addressed as a threat to validity when humans serve as raters and judges. Not only is it difficult to establish criteria which can be measured, but it is equally difficult to sustain this measurement over a large number of cases. In order to maintain the highest degree of consistency, King (1987) used the following protocol. The accepted operational definitions were established and placed in front of the researchers to facilitate cross-checking. Data was recorded for each subject, and initially all cases were checked against the criteria. As the researchers became more familiar with the criteria, at least every fifth case was checked against the criteria to allow recalibration as necessary.

Statistical conclusion validity is sometimes referred to as a threat to internal validity and is of concern in this study. The data collected by King (1987) involved clinical and family records that were designed for legal purposes rather than research. As a result, the legal/criminal data was much more precise and accurate

than clinical and family information. This potential mismatch in accuracy of the sets of data are not well tolerated by multiple regression techniques and may have reduced the capacity for prediction. The use of parametric statistics benefits from experimental designs that incorporate equal and large numbers of subjects within each group. Neither of these criteria were fully met given that King's (1987) study was descriptive in an existing population.

Reliability

Reliability may be threatened to the extent that juvenile files may have been incomplete or inaccurate. Juvenile records may not have fully reflected all clinical or social data. Abuse was a variable that may have been underreported in that the files are from 1978 and 1979. Abuse was questioned far less in that era, particularly sexual abuse among males. King (1987) noted, however, that the records were consistently found to be very extensive.

Limits in reliability in determining clinical diagnoses result from established reliability and validity limitations of the DSM III, as well as the bias of the researcher in inferring these diagnoses from the charts.

The Oregon State Police files were the source of establishing the adult criminal records for the subjects of the study. This data was used to establish the seriousness index in King's (1987)

study. Reliability, and hence, external validity is threatened in that additional crimes may have been committed outside the State of Oregon and were not available for inclusion in the seriousness index.

External Index

The limits of generalizability of this study are within the confines of adolescents committed to MacLaren School for Boys from Multnomah County. The male subjects were all from urban populations. The study cannot be construed to represent all seriously delinquent youths.

Plan for Analysis

All analyses were originally performed on the Harris 8686, Series 1018, using the Statistical Package for the Social Sciences (SPSS). The current study utilized the same data, however the analysis was conducted with P-Stat.

Non-parametric Statistics

Chi-square analyses were used to explore emotional, physical, sexual abuse and neglect, as well as the collapsed category of abuse in relation to 1) the socialized and undersocialized categories of Conduct Disorder, and 2) the aggression and nonaggression categories of the Conduct Disorder.

Parametric Statistics

Discriminant Function Analysis. Discriminant function analysis was used to predict the most serious crime likely to be committed as juveniles and as adults.

Multiple Regression Analysis. Multiple regression analysis was used to predict the seriousness index as juveniles and as adults.

Chapter III

RESULTS

The results of this study are presented so that the abuse categories can be examined both individually and collectively as they relate to the socialization and aggression factors of the Conduct Disorder. The predictive ability of the combined abuse category for both juvenile and adult criminality is also presented. Each of the three study questions, the related hypotheses and the statistical measures are examined.

Findings Regarding the First Study Question

The first study question was: To what extent is abuse correlated with the socialization factor of the Conduct Disorder? Five hypotheses were designed to test this question.

Hypothesis 1

Hypothesis 1 states that emotional abuse will correlate significantly with the socialization factor of the Conduct Disorder. Table 2 presents the frequency and percentages of subjects in each abuse category as they co-exist with the socialization factor of the Conduct Disorder. Using chi-square to test the statistical significance of the relationship, the results were not statistically significant. Emotional abuse is one of the variables which may be underreported. Reasons for nonreporting could include the adolescents inability to distinguish what is reasonable adult behavior and what is emotional abuse, a desire to

Table 2.

Relationship Between Socialization Factor of Conduct Disorder and

Categories of Abuse

	Socialized N = 44	Undersocialized N = 191	Statistical Comparison x^2
Emotional abuse	4 (9.1%)	37 (19.4%)	.105
Physical abuse	8 (18.2%)	47 (26.6%)	.364
Sexual abuse	0 (0%)	5 (2.6%)	.613
Neglect	14 (31.8%)	111 (53.2%)	.002*

df = 1

* = p <.01

protect the abuser, or documentation issues such as a lack of

direct assessment of the different kinds of abuse. It is relevant

comparatively, that a higher percentage of adolescents who were

undersocialized reported emotional abuse than those who were

socialized (19.4% vs. 9.1%).

Hypothesis 2

Hypothesis 2 states that physical abuse will correlate

significantly with the socialization factor of the Conduct

Disorder. The results in Table 2 do not support this hypothesis. Physical abuse may also be underreported although the parameters for what constitutes physical abuse are clearer than the parameters for emotional abuse. Although the results were not statistically significant, the trend showed a higher incidence of physical abuse in the undersocialized group when compared to the socialized group (26.6% vs. 18.2%).

Hypothesis 3

Hypothesis 3 states that sexual abuse will correlate significantly with the socialization factor of the Conduct Disorder. The chi-square analysis presented in Table 2 is not statistically significant. The climate for assessing and reporting sexual abuse in the late 1970's was much more restricted than is present today. Since the juvenile records were from 1978 and 1979, it was anticipated that sexual abuse was underreported. Mowery's (1988) study of rural juvenile delinquents found a 14.3% incidence of sexual abuse. Her clinical data was collected during 1984 on adolescents incarcerated at MacLaren School for Boys. In light of these results, a 2.1% reporting of sexual abuse is indeed suspicious. The fact that all five boys were in the undersocialized group supports the trend linking abuse with undersocialization.

Hypothesis 4

Hypothesis 4 states that neglect as an abuse category will correlate significantly with the socialization factor of the Conduct Disorder. The results in Table 2 show a strong correlation between neglect and undersocialization (p <.002). Since the juvenile justice system is very interested in the type and amount of supervision available to the adolescents for which it must make placement decisions, neglect may be the one abuse variable that is well documented in that system. Neglect may be fairly readily evident in assessing the circumstances of an adolescent. The significant connection between neglect and undersocialization supports the work of Egeland and Sroufe (1981a) who found that neglected children demonstrated the most severe absence of attachment.

Hypothesis 5

Hypothesis 5 states that when the emotional, physical, sexual and neglect components of abuse are combined, they will correlate significantly with the socialization factor of the Conduct Disorder. Table 3 presents the frequency counts and percentages of subjects as they correlate with the socialization factor of the Conduct Disorder. Chi-square analysis demonstrated a significant relationship between the combined abuse category and the socialization factor of the Conduct Disorder (p <.049).

Table 3.

Relationship Between Combined Abuse Category and Socialization

Factor of the Conduct Disorder

	Socialized N = 44	Undersocialized N = 191	Statistical Comparison x^2
Combined Abuse Category	20 (45.5%)	126 (65.9%)	.049*

df = 1

* = p <.05

Findings Regarding the Second Study Question

The second study question was: To what extent is abuse correlated with the aggression factor of the Conduct Disorder? Five hypotheses were designed to test this question.

Hypothesis 1

Hypothesis 1 states that emotional abuse will not be significantly correlated with the aggression factor of the Conduct Disorder. Table 4 presents the frequency counts, percentages and chi-square values of subjects in each abuse category as they co-

exist with the aggression factor of the Conduct Disorder. This hypothesis was supported by the data. While the results showed a trend toward a correlation between emotional abuse and aggression, it was not statistically significant hence supporting hypothesis 1.

Hypothesis 2

Hypothesis 2 states that physical abuse will not be correlated with the aggression factor of the Conduct Disorder. The chi-square analysis in Table 4 supports this hypothesis. Indeed, the percentage of adolescents in the aggressive group was slightly less than the nonaggressive group (22.8% vs. 25%).

Hypothesis 3

Hypothesis 3 states that sexual abuse will not be correlated with the aggression factor of the Conduct Disorder. The results in Table 4 support this hypothesis. It is interesting to note, however, that all five reports of sexual abuse were in the aggressive group. This trend suggests a measurement or sampling error. A large sample within this cell might have reached significance.

Hypothesis 4

Hypothesis 4 states that neglect will not be correlated with the aggression factor of the Conduct Disorder. This hypothesis was not supported by the data. Chi-square analysis demonstrated a

Table 4.

Relationship Between Aggression Factor of Conduct Disorder and

Categories of Abuse

	Aggression N = 171	Nonaggression N = 64	Statistical Comparison x^2
Emotional abuse	34 (19.9%)	7 (10.9%)	.108
Physical abuse	39 (22.8%)	16 (25%)	.724
Sexual abuse	5 (2.9%)	0 (0%)	.382
Neglect	99 (57.9%)	26 (40.6%)	.018*

df = 1

* = p <.05

statistically significant correlation between neglect and the

aggression factor of the Conduct Disorder (p <.018).

Hypothesis 5

Hypothesis 5 states that when the emotional, physical, sexual

and neglect components of abuse are combined, they will not

correlate significantly with the aggression factor of the Conduct

Disorder. Table 5 presents the frequency counts, percentages and

chi-square values for the combined abuse category as they co-exist

Table 5.

Relationship Between Combined Abuse Category and Aggression Factor

of the Conduct Disorder

	Socialized N = 171	Undersocialized N = 64	Statistical Comparison x^2
Combined Abuse Category	113 (66.1%)	35 (51.6%)	.286

df = 1

with the aggression factor of the Conduct Disorder. This

hypothesis was supported. The combined abuse category did not

correlate significantly with the aggression factor of the Conduct

Disorder.

Findings Related to the Third Study Question

The third research question was: Is abuse one of the

variables in the predictive formula for juvenile and adult crimes?

Two hypotheses were designed to test this question.

Hypothesis 1

Hypothesis 1 states that when the emotional, physical, sexual and neglect components of abuse are combined, they will contribute to the predictive formula for juvenile crimes.

In order to determine the extent to which the combined abuse category could predict the likelihood of commission of more serious crimes, multiple regression analyses were performed. The hierarchical stepwise procedure was selected for continuous criterion variable of the Juvenile Seriousness Index. The stepwise multiple regression analyses identified eight variables from the total group which contributed significantly to the prediction of the juvenile seriousness index (Table 6). The two most powerful variables, the number of juvenile offenses and the most serious juvenile offense, comprised 46.2% of the 54.4% total variance. The other six variables contributed the remaining 8.2% of the variance. In descending order, the other six significant variables were number of offenses preceeding commitment, attention deficit disorder, learning disorder, conduct disorder, depression and abuse. Although the combined abuse category remained in the predictive formula, it was the least powerful variable adding only 0.4% additionally to the total variance of 54.4%.

Hypothesis 1 was supported. The combined abuse category remained in the formula for predicting juvenile criminality.

Table 6

Multiple Regresison Predicting Serious Crimes as Juveniles

Outcomes Measure: Juvenile seriousness Index

Predictor Variables	Multiple R	R2 Percent of Variance	Beta Weights at Final Step	F Statistic	df
Number juvenile offenses	.582	33.9	.8737	119.23*	(1, 233)
Most serious offense	.680	46.2	-.3610	99.74*	(2, 232)
Number offenses preceeding commitment	.709	50.3	-.4160	78.83*	(3, 331)
Attention deficit disorder	.719	51.7	-.1313	61.61*	(4, 230)
Learning disorder	.727	52.8	.1166	51.30*	(5, 229)
Conduct disorder	.732	53.5	-.0843	43.74*	(6, 228)
Depression	.735	54.0	.0828	38.07*	(7, 227)
Abuse	.737	54.4	.0633	33.66*	(8, 226)

* = p <.001

Hypothesis 2

Hypothesis 2 states that when the emotional, physical, sexual and neglect components of abuse are combined, they will contribute to the predictive formula for adult crimes.

Using the adult seriousness index as the continuous criterion variable, the stepwise multiple regression analyses identified five variables which contributed to the predictive formula (Table 7). In decreasing order they were Conduct Disorder, most serious juvenile offense, learning disorder, abuse and parental supervision. While abuse was not a major predictor, it remained in the formula adding 1.3% to the total variance of 11.7%.

In addition, a discriminant function analysis was performed in an effort to predict the most serious crimes committed as adults using the 'collapsed' abuse category, as well as the additional 'offenses preceeding commitment' variable. When all 16 variables were retained in the prediction formula [$F(2, 202) = 3.33$ $p < .001$], 154 of the 220 subjects were correctly assigned. Table 8 reflects the 16 variables in order of significance of contribution to the predictive formula. The Conduct Disorder proved the most powerful predictor followed by the learning disabilities, the most serious juvenile offense and alcohol abuse. The stepwise analysis approaches the one described by King (1987) except the abuse category loses its predictive power when combined. King's study (1987) found emotional abuse to be fourth

Table 7

Multiple Regression Results Predicting Serious Crimes as Adults

Outcomes Measure: Adult seriousness Index

Predictor Variables	Multiple R	R2 Percent of Variance	Beta Weights at Final Step	F Statistic	df
Conduct disorder	.258	6.7	-.2442	16.60*	(1, 233)
Most serious juvenile offense	.286	8.2	-.1322	10.30*	(2, 232)
Learning disorder	.307	9.4	.1269	8.02*	(3, 231)
Abuse	.327	10.7	.1038	6.90*	(4, 230)
Parental supervision	.343	11.7	.1035	6.10*	(5, 229)

* = p <.001

Table 8

Stepwise Discriminant Analysis to Predict the Most Serious Crimes
Likely to be Committed as Adults

Variable	Multivariate F	Univariate F
Conduct Disorder	23.34***	26.86***
Learning disorder	3.90*	2.26
Most serious juvenile offense	3.68*	7.35***
Alcohol abuse	3.30*	1.62
Number of juvenile offenses	2.96	5.60**
G.E.D. not completed	2.11	2.45
Depression	2.03	1.86
Age of first offense	1.65	.85
Offenses preceeding commitment	1.65	1.38
Abuse	1.24	1.40
Drug abuse	1.20	.70
Thought disorder	.67	.45
IQ < 85	.54	2.42
Extent of supervision	.51	.13
Juvenile seriousness index	.18	8.09***
Attention deficit disorder	.07	2.74

*** = $p < .001$

** = $p < .01$

* = $p < .05$

in predictive power, while this analysis shifts it to the tenth
position.

Table 9 shows the proportion of those adults whose outcome
was correctly predicted. With this set of variables which
includes abuse, 70% of the subjects were correctly classified.
Little benefit results from retaining the large number of
predictor variables. When the top four variables were used 150 of
the 220 subjects or 68.2% of the subjects were still correctly
classified [$F(2, 214) = 9.65$ p $<.001$].

Table 9

Prediction of Most Serious Crimes Committed as Adults

| Actual Group | Predicted Classificationi | | |
	No Crime	Misdemeanor	Felonies
No crimes as adults (62)	33 (53.2%)	16 (25.8%)	13 (20.9%)
Misdemeanors as adults (15)	3 (20.0%)	9 (60.0%)	3 (20.0%)
Felonies as adults (144)	20 (13.9%)	11 (7.6%)	112 (77.8%)

Hypothesis 2 was supported. The combined abuse category remained in the formula for predicting adult criminality. Although abuse was one of the variables in the formula for predicting the most serious crime as an adult, it was not a strong predictor.

Chapter IV

DISCUSSION

This final chapter discusses the study results. For each of the three research questions the findings will be examined and related to the literature review. The study will conclude with a discussion of the implications of the findings and suggestions for future research.

Relationship Between Abuse Categories and Socialization

In research question 1 it was hypothesized that emotional, physical, sexual abuse, neglect and the combination of these abuse categories would correlate significantly with the socialization factor of the Conduct Disorder. In fact, only neglect and the combined abuse category reached statistical significance. Even though not statistically significant, the percentage of adolescents with a history of emotional, physical and sexual abuse was higher in the undersocialized category than in the socialized category. This trend, combined with a suspicion of underreporting supports collapsing the individual abuse categories into a single category. The boundaries between the individual categories are often blurred. Indeed, it is difficult to conceive of sexual abuse in the absence of physical and emotional abuse, or physical abuse in the absence of emotional abuse.

The fact that neglect which is more consistently reported was significant at the $p < .002$ level suggests a strong relationship

exists between neglect and undersocialization. Neglected children do not develop normal social skills. This finding may have treatment implications for child maltreatment programs.

In the conceptual framework, the abuse categories are factors in a negative parent-child interaction process which interfere with the attachment process. If compensating factors such as a competent other caregiver are not present, the attachment process does not occur. Nonattachment then results in an undersocialized child. The fact that this study found a correlation between socialization and both neglect and the combined abuse category supports the conceptual framework. Abuse, attachment, and socialization seem to be related. This study, however, did not address the presence or absence of the variables identified in the conceptual framework as compensating factors in the attachment process. In the presence of abuse and in circumstances where the child appeared socialized, it is unknown whether the difference between the socialization and undersocialization is indeed the presence of a stable other caregiver, nurturance by another caregiver, consistent residence, adequate supervision by another caregiver or protection from abuse by another caregiver. The supposition of the presence of these compensating factor, however, would help explain how some abused children are able to progress through the socialization process.

Relationship Between Abuse Categories and Aggression

Research question 2 hypothesized that there would be no correlation between the abuse categories and the aggression factor of the Conduct Disorder. The hypotheses were partially supported in that there was no correlation between aggression and emotional, physical and sexual abuse and the combined abuse category. However, the relationship between aggression and neglect did reach statistical significance. In the neglect category, 57.9% of the adolescents with aggression were also neglected while only 40.6% of the nonaggressive adolescents were rated as neglected (p <.018). Both percentages are high, reinforcing King's (1987) correlation of neglect with the Conduct Disorder.

The accepted etiology of aggression is a complex mixture of constitutional factors, chromosome-hormone involvement, instinctual drives, learned behavior and underdeveloped psychological inhibitors. In the conceptual framework, control of aggression is one facet of the socialization process. Socialized four to ten year olds display a beginning control of aggression while eleven to thirteen year olds demonstrate control of aggression. Children who are physiologically prone to aggression and who are also neglected may not learn socially appropriate ways of controlling their aggression. These children are also likely to be undersocialized. The socialized children in the conceptual framework have learned appropriate ways to control their

aggression. It may be that socialized aggressive children have a stronger physiologic basis for their aggression so that while they are able to negotiate the attachment/socialization process, their learning is not sufficient to control the aggression piece of that process. It may also be that aggression is a factor of peer relationships with more socialized children, and may not be retained as adults when behaviors are less a function of peer pressure.

Abuse as a Clinical Predictor of Criminal Behaviors in Juveniles and Adults

Research question 3 tested the ability of the combined abuse category to predict juvenile and adult criminality as well as the most serious crime as an adult. The combined abuse category was indeed predictive of both juvenile and adult criminality. While abuse was not a strong predictor, the fact that a clinical variable had the staying power to remain in the formula with other known powerful legal and diagnostic variables is remarkable. When making disposition decisions, the juvenile justice system might consider adding an assessment of the adolescent's abuse history because of its predictive ability in this study. It is interesting to note that the top three predictors for juvenile crime were legal variables (number of juvenile offenses, most serious offense, number of offenses preceding commitment). In

contrast, the five adult predictors contained only one legal variable.

Abuse was not a strong predictor of the most serious crime committed as a juvenile or as an adult. It may be that abuse is so highly correlated with the Conduct Disorder that is it redundant, and therefore, loses its individual predictive ability.

This study, as does the King study points to the need for understanding the interrelationships of the clinical and family variables. It seems plausible that learning disorders (retained in both regression formulas) and attention deficit disorders (retained in the juvenile regression formula) both may inhibit the socialization process, and may be particularly problematic when appropriate parental supervision is not available.

The top four variables in the predictive formula for most serious adult crime, Conduct Disorder, learning disorder, most serious juvenile offense and alcohol abuse correctly assigned 150 of the 220 subjects. Adding the remaining 12 variables only added four additional subjects. It is interesting to note that three of the four multivariate predictors are clinical variables while only one is a legal variable. This is hopeful data for early casefinding and intervention. In contract, the variables stand alone as predictors when legal variables predominate. While Conduct Disorder is the leading single predictive variable the other three top predictors, juvenile seriousness index, most

serious juvenile offense and number of juvenile offenses are legal variables.

While emotional abuse was a significant predictor in the King (1987) study, the combined abuse category was not significant in this study. It is likely that the combined abuse category correlated highly with age of first offense and Conduct Disorder eliminating its predictive power.

The predictive accuracy for most serious crime committed as an adult is comparable between the current study and the King (1987) study (68.2% vs 66.97%). While combining the abuse categories changed the predictive variables, it did not change the ability to predict the most serious adult crime.

Overall, the combined abuse category was useful in predicting a pattern of juvenile and adult criminality but not the most serious juvenile or adult offense.

<div align="center">Summary</div>

This study examined the relationships among child abuse/neglect, the socialization and aggression factors of the Conduct Disorder and subsequent criminal behavior. While the individual categories of emotional, physical and sexual abuse did not correlate with the socialization factor of the Conduct Disorder, there was a significant relationship between the combination of the abuse categories and socialization. Given the likelihood of underreporting of abuse and the difficulties with

clear boundaries between the abuse categories, combining the categories may be a more accurate way to determine the role abuse plays in developmental processes. Neglect had the most pervasively negative outcomes, correlating with both the undersocialization and the aggression factors of the Conduct Disorder. This outcome is similar to the finding by Egeland and Sroufe (1981a) that any attention, even if abuse, was better than no attention at all. The combined abuse category was useful in predicting a pattern of criminality but not the most serious offense for both juveniles and adults.

Implications for Practice

This study suggests that abuse and neglect are risk factors in the development of Undersocialized Conduct Disorders associated with delinquency. The DSM III description of a predisposing variable for Undersocialized Conduct Disorder which most closely taps abuse and neglect is inconsistent guidance with harsh discipline. It may be beneficial to explore incorporating abuse and neglect directly as risk factors associated with undersocialization and delinquency.

This study also suggests that parents, early childhood educators and childcare workers should pursue finding effective ways to support the attachment and socialization processes of children as a primary prevention mechanism for Conduct Disorder and delinquency. Especially needed are identification of

effective compensating variables when attachment has not occurred in the home environment.

Given the power of the combined abuse category to predict future crime, the judicial system may need to consider a history of abuse and neglect as important clinical data when making their disposition decisions.

Nurses could facilitate early case finding and intervention with children experiencing abuse, neglect and/or difficulty with the attachment and socialization processes. This is especially true as the literature reported that a majority of delinquents had significant contact with the health care system throughout the course of their development (Palfrey et al., 1983).

Suggestions for Future Research

The directions for future research are aimed at further identifying characteristics associated with Conduct Disorder and criminality as well as exploring variables critical in successfully negotiating the socialization process. Therefore research could be approached either from the phenomenon of socialization during a child's early years, or from later developmental phenomena as reflected in the Conduct Disorders and various psychopathology. From the perspective of attachment/ socialization, future study might include a longitudinal study of abused children and related compensatory treatment and family variables.

From a perspective of later developmental patterns, studies could include:

1) Conducting a descriptive study designed to explore a group of delinquents who, in spite of an adolescent history that is marked with serious criminal offenses, successfully correct this stance as adults. A study such as this would further understanding on the role of abuse, mediating factors, and diagnostic categories of the Conduct Disorder.

2) A prospective study of delinquents that includes extensive history taking of the categories in the King (1987) study, a comprehensive psychological and family evaluation, and careful follow-up that allows for determining which variables are most associated with serious criminal histories.

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APPENDIX A

Juvenile and Adult Seriousness of Crime Index

Both juvenile and adult criminal justice systems record crimes in keeping with the legal classification of felonies and misdemeanors. All crimes are determined to be felonies (classes A, B, or C) and misdemeanors (classes A, B, or C). In addition, a classification of status offense exists for juveniles. The judicial penalties associated with various classification of crimes are the same for juveniles and adults. They are as follows:

Felony

      Class A - up to 20 years imprisonment

      Class B - up to 10 years imprisonment

      Class C - up to 5 years imprisonment

Misdemeanor

      Class A - up to 1 year imprisonment

      Class B - up to 6 months imprisonment

      Class C - up to 30 days imprisonment

King's (1987) weighting system for seriousness of crime was computed as follows:

Felony

      Class A - 20 points

      Class B - 10 points

      Class C - 5 points

Misdemeanor

    Class A - 1 point

    Class B - 0.5 point

    Class C - 0.1 point

    Status Offense (juveniles only) - 0.01 point

These points were added to establish a "seriousness" index which allowed for the development of a continuous scale. For example a subject with one Class B felony and one Class A misdemeanor would have the following index:

Crime	Maximum Penalty	Points	Offenses	Total Points
Felony B	10 years	10	1	10
Misdemeanor	6 months	0.5	1	0.5

                                                 ....

                                      serious index = 10.5

AN ABSTRACT OF THE THESIS OF

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FOR THE MASTERS OF NURSING

DATE OF RECEIVING THIS DEGREE: JUNE   , 1989

TITLE: ABUSE AND SOCIALIZATION AS PREDICTORS OF JUVENILE AND
          ADULT CRIMINAL BEHAVIORS

APPROVED: _____

              MARY CATHERINE KING, R.N., Psy.D.   THESIS ADVISOR

Criminal patterns are often examined within the conceptual
context of aggression. King (1987), in contrast found that the
clinical variables of undersocialization, abuse and neglect were
related to both juvenile and adult criminal behavior. The purpose
of this study was to examine the impact of child abuse and neglect
on the process of socialization and subsequent criminal behavior
in a delinquent population.

An ex post factor multivariate correlational design was used.
The data in the study by King (1987) were examined by secondary
analysis. The subjects were 221 males admitted to Multnomah
County Juvenile Justice System and committed to MacLaren School
for Boys between January 1, 1978 and December 31, 1980.

The independent variables included the Socialization/ Undersocialization factor of the Conduct Disorder, the Aggression/Nonaggression factor of the Conduct Disorder, history of emotional, physical or sexual abuse, history of neglect, and a combined abuse category. Dependent variables included the number and seriousness of offenses committed as a juvenile and as an adult.

The major findings were as follows:

1. There was a significant relationship between the combined abuse category and the Socialization factor of the Conduct Disorder.

2. There was no significant relationship between the combined abuse category and the Aggression factor of the Conduct Disorder.

3. There was a significant relationship between neglect and both the Socialization and Aggression factors of the Conduct Disorder.

4. There was no significant relationship between the individual categories of emotional, physical and sexual abuse and either the Socialization or Aggression factors of the Conduct Disorder.

5. The combined abuse category was useful in predicting a pattern of criminality but not the most serious offense for both juveniles and adults.

This study suggests that child abuse and neglect are linked to the development of Undersocialized Conduct Disorders associated with delinquency. Given the power of the combined abuse category to predict future crime, the judicial system may need to consider a history of abuse and neglect as important clinical data when making disposition decisions.