The intergenerational continuity of antisocial behavior

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The intergenerational continuity of antisocial behavior

by

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A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

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This is to certify that the doctoral dissertation of

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has met the dissertation requirements of Iowa State University

Signature was redacted for privacy.

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For the Major Program

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For the Graduate College
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CHAPTER ONE

PROBLEM STATEMENT

Recent work in the area of antisocial behavior has focused on the linkage between parents and the resulting behavioral predisposition of their children to participate in socially inappropriate behavior. As a concept, adolescent antisocial behavior can be defined as any form of behavior exhibited by children under the age of majority that violates generally accepted norms of conduct. Olweus et al. (1986:2) indicates that antisocial behavior is the "violation of a formal or informal social rule, including serious criminal acts or flagrant disregard for conventional standards of approved behavior, as well as more private and momentary oppositional and hurtful acts."

Some of the research on antisocial behavior suggests its intergenerational continuity is attributable to factors strongly associated with parenting practices. Other studies reveal the tendency toward adolescent antisocial behavior is learned through a modeling process involving the child's observation of the antisocial behavior of the parent (Bandura 1977; Gelles 1980; Glueck and Glueck 1950; Moffit 1993; Simons et al., 1989; Hirschi 1969).

Additional research by Elder, Jr. et al. (1986:295,312) found behavior in subsequent generations was influenced by
actions in previous generations. The authors claim "...events in one generation often have consequences for events in older or younger generations." The authors also indicate that this phenomenon has been well documented stating, "substantial evidence has been marshalled in support of an association between problematic social development and family characteristics."

Krohn et al. (1987) recognizes both processes and suggests that the development of antisocial behavior is a function of intimate personal relationships in which significant others control both positive and negative reinforcements. Gove and Crutchfield (1982) indicate the association between adolescent antisocial behavior and family patterns of interaction is one of the most robust and consistently replicated findings in the field of deviance.

McCord (1986) found that both the quality of parenting and parental behavior influence long-term aggressive antisocial behavior. Farrington (1986) supports this contention indicating adolescent antisocial behavior is linked to quality of parenting as well as the antisocial characteristics of the parents.

Evidence from both camps strongly suggests an adult's antisocial behavior is preceded by their antisocial behavior as an adolescent. Research reveals the possibility of antisocial behavior in adulthood developing without a
history of adolescent antisocial behavior is highly unlikely (Hirschi and Gottfredson 1990; Louber and Stouthamer-Louber 1986; Moffit 1991; Sampson and Laub 1993; Simons et al., 1991; Simons et al., 1995). This seems to suggest that behavioral characteristics acquired during adolescence, either as a result of a modeling influence or through a process linked to parenting, persist throughout much of the life-course.

Gottfredson and Hirschi (1990) suggest inept parenting fosters poor impulse control on the part of the child and increases the likelihood of adolescent antisocial behavior. According to the authors, these behavioral tendencies are the result of the quality of parenting experienced during adolescence which often promotes the development of the aberrant behavior. Hagan (1991) feels children who lack a family setting grounded in effective parental control tend to develop antisocial characteristics due to a process of poor social bonding that fails to develop inhibitions toward the commission of formally and informally defined deviant behavior.

Commonly held perceptions of the family feature the parent as the child's primary role model. This position affords the parent an opportunity to guide the child's behavioral development. Using this framework, research has determined that antisocial characteristics portrayed by the
parent contribute to the development of adolescent antisocial behavior through a process of imitation and reinforcement. Proponents of a parenting perspective, however, suggest modeling is not as vital an element as has been suggested. This research tends to suggest adolescent antisocial behavior is more closely related to the quality of parenting, behavior which is likely to generate, or at least fail to inhibit, socially inappropriate behavior.

Based on contentions from both perspectives, this study will analyze two primary causal relationships: a) the association between parent's quality of parenting and the target child's antisocial behavior and b) the linkage between parent's antisocial behavior and the resulting behavioral tendencies of their children. This examination will be conducted in an attempt to explain the continuity of antisocial behavior across generations.

The first relationship to be tested focuses on the influence of parent's antisocial behavior on the behavior of their offspring, a process that can be characterized in terms of a modeling effect. The second relationship to be explored deals with the influence parent's parenting has on exhibited behavioral traits of their offspring. This portion of the examination will focus on the relationship between the quality of parenting and the effects low levels of this variable have on the behavioral traits of children.
raised in such an environment. Both perspectives suggest family variables influence adolescent behavior; however, it is not clear which process exerts the greatest influence on the development of antisocial behavior in adolescent youths.

Therefore, the relationship between parental antisocial behavior and parenting will also be examined beginning with generation one, the grandparents of the target generation, and for generation two, the adult offspring of generation one to support the notion of the continuity of antisocial behavior across generations.

Using longitudinal data collected from two generations, the proposed model will attempt to determine whether or not a distinct relationship between quality of parenting and child's antisocial behavior or parental antisocial behavior and child's antisocial behavior does exist. It is hoped that the findings will assist in explaining some portion of the relationship between these factors and will ultimately contribute further to our understanding of the development of adolescent antisocial behavior.

Organization of the Study

This study is organized in the following manner. This first chapter addresses the problem to be analyzed. Chapter two highlights the literature that will sustain the direction taken by this research effort and the expected
relationships between the variables. Chapter three will deal exclusively with the methods and procedures. The results will be presented in chapter four. A discussion of the findings will be conducted in chapter five. The measures used to obtain the data will be included in the appendices.
CHAPTER TWO

LITERATURE REVIEW

Modeling

Parsons (1968) believes that so long as behavior is reinforced a recurring pattern of misconduct is possible. The author indicates that when examining deviant behavior attention should be placed on the process that guides the development of the individual. Parsons also feels the motivation to sustain behavioral patterns, either prosocial or antisocial, is embedded in the personalities of the individual as a result of social processes involved in their development.

Social learning theory posits antisocial behavior, as well as conventional behavior, is learned through differential association, imitation, interaction, reinforcement and learned definitions, factors that form the structural foundation for the modeling process attributed by some as the cause of adolescent antisocial behavior. Additional research supports the contention that certain children are susceptible to parental influence and as a result, mimic the behavior of their parents as adults when raising their offspring (Akers 1994; Bandura 1977; Caspi and Elder 1986; Rosenthal and Zimmerman 1978; Rushton 1982; Rushton and Teachman 1978; Sutherland 1947).
Kempe et al. (1962) suggest social interaction between family members marked by the display of aggressive antisocial behavior tends to span generations. Maccoby (1992:1006) found parents are the most influential socializing agent in a child's life. The author indicates "even though socialization and resocialization can occur at any point in the life cycle, childhood is a particularly malleable period, and it is the period of life when enduring social skills, personality attributes, and social orientations and values are laid down."

Bandura (1977) feels individuals learn behavior through observation. These experiences eventually serve as a guide for future action. Bandura suggests the strength of modeled behavior varies according to the authority vested in the position of the actor in the observed role. The author also reveals the degree of imitation by the child depends upon the reinforcement they receive from the actor whose behavior is being imitated.

Krohn (1987) indicates the process by which children are influenced and their behavior determined is one attributable to modeling. The author reasons that mimicked behavior is a combination of differential association and operant conditioning suggesting the probability of any behavior occurring is contingent upon the reinforcement of
that behavior and the likelihood of reinforcement for alternative behaviors.

Burgess and Akers (1966) also support a modeling perspective indicating that imitating parental behavior is more than just a process of association, rather it is one that includes such additional elements as operant and classical conditioning, discriminant stimuli and schedules of reinforcement. The author (1977:vii) defines the modeling process as the "reciprocal interaction between cognitive, behavioral and environmental determinants."

Akers (1994:105) identifies several elements of the social learning process relevant to a study of deviance. The author feels interaction processes portray the exhibited behavior as rewarding in a social setting. According to the author, "the social learning variables of differential association, differential reinforcement, imitation, and definitions, singly and in combination, are strongly related to the various forms of deviant, delinquent, and criminal behavior studied."

In addition, Akers (1994:97-100) feels "definitions favorable and unfavorable to criminal and delinquent behavior are developed through imitation..." Akers also states the process of imitation, as it applies to learning, simply refers to "the engagement in behavior after the observation of similar behavior in others."
Continuing, Akers (1994) suggests modeling processes have both an interaction and a normative dimension. The author feels that as a result of participating in the social learning process, deviant and non-deviant patterns of behavior are learned. As a result, it is felt that the environmental setting, exposure to antisocial behavior exhibited by primary care givers, the expectations of the primary group and the generalized acceptance of attitudes that neutralize inhibitions toward deviant conduct all contribute to adolescent antisocial behavior.

Akers (1994:100) concludes his comments on modeling stating the "progression into more frequent or sustained patterns of deviant behavior is promoted [to the extent] that reinforcement, exposure to deviant models, and definitions are offset by negative formal and informal sanctions and definitions." This is thought to suggest that the behavior exhibited by the adult is mimicked by the child to the extent it goes uncorrected. This process reinforces the appropriateness of parental behavior in the child's mind even when the behavior exhibited by the parents violates normatively prescribed social restrictions.

Krohn (1987) suggests behavioral patterns are formulated based on reinforcements for a particular behavioral response. The author feels deviance is learned
when individuals are repeatedly exposed to antisocial role models who represent their behavior as both an acceptable and a meaningful pattern of social interaction.

MacWen (1994:352-3) feels the greater the number and frequency of factors involved in learning antisocial behavior, the more likely this exposure will result in antisocial behavioral patterns imitated by the observer. The authors state "the likelihood of currently enacting aggression will increase with the number and frequency of severe acts of aggression in the family of origin, and that aggression will be compounded when the impact of family of origin aggression is highly negative."

Hotaling et al. (1990) suggests learning theory supports the contention that family interaction guides the development of behavioral traits. The authors' findings indicate parents who exhibit aggressive behavior toward their children perpetuate a cycle of antisocial development, one that weakens social bonds to the family as well as to society. Bandura (1973) feels the relationship between generational continuity and antisocial behavior is grounded in the belief that behavior can be learned simply by observing the actions of others. Other studies have found adolescents who observe parental antisocial behavior tend to exhibit similar behavioral patterns when raising their children. Caspi et al. (1986), as cited in Patterson
and Dishion (1994), support this contention indicating antisocial children tend to imitate antisocial parents.

MacWen (1994:351) indicates behavioral patterns coincide directly with the major assumptions of social learning theory stating, "according to social learning theory principles, aggressive behaviors will be more likely to occur when certain conditions are present in the original learning situation." MacWen (1994) identifies several additional elements that contribute to a child's predisposition toward antisocial behavior. According to the author, these factors include, identification with the aggressor, same gender modeling, experienced or witnessed aggression and frequency and severity of family of origin aggression.

Bandura et al. (1963) reveals same sex modeling generally has a greater effect on adolescent behavior than behavior modeled by the opposite sex parent. The authors also indicate male models are imitated more than female models. This seems to suggest children are more likely to mimic the parenting exhibited by their father than their mother. This effect appeared to be stronger for sons than for daughters.

MacWen (1994:361), however, cautions that within-gender modeling may not be as significant a determinant of antisocial characteristics as previously thought stating
"the results did not support the idea that male models are more influential in general than female models." MacWen (1994:353) continues by suggesting, "an expanded measure of family of origin aggression that incorporates several features of the learning situation will show that modeling of family of origin aggression does occur but is a complex process involving characteristics of the learning situation."

In addition to the gender of the role model, Widom (1987:138) feels the interpersonal relationship between parent and child influences the child's development most as a result of a lengthy and relatively unique socialization process. Widom suggests "... physical aggression between family members provides a likely model both for learning aggressive behavior and for the appropriateness of such behavior..."

Parenting

Recent research suggests relationships between parenting and the child vary with the gender of the parties involved. As suggested by Kurz (1991), a strong association does exist between gender and the use of violence by adults. According to Youniss and Smollar (1985), in father-daughter relationships, the male parent is considered authoritative, caring, but lacking in warmth
and approachability; qualities that not only strain the relationship, but limit the quantity as well as the quality of the emotional relationship between father and daughter. The female parent, however, is often considered open, caring and forgiving even though the mother is often described as intrusive. Father-son relationships are usually characterized as being distant and lacking in respect, while the mother-son relationship is generally described in terms of friendship and loyalty.

Simons et al. (1991) found a direct relationship between grandparent parenting and the method of parenting utilized by their adult children. As a result, the authors argue that repeated exposure to aggressive parenting over the life course of the adolescent provides the child victim with a parenting model that is utilized later in life when raising their children.

Watson et al. (1987), as cited in MacWen (1994), reports aggressive behavior in the family of origin predicted similar parental traits and patterns in their offspring and was evident when examining the discipline practices of the second generation. Rutter and Giller (1983) feel available data is consistent with the notion that disruptive parenting influences the development of antisocial behavior in subsequent generations.
Belsky and Pensky (1988:193) believe the environment of the family sets the stage from which future generations flourish or suffer depending on the quality of parent-child interaction. The authors state a child's adult role as a primary care-giver is influenced by a process which emphasizes "prior relationship experiences, skills, expectations and behavioral practices that affect the way they function as parents..."

McCord (1991) feels aggressive discipline is only one component of a parenting process from which antisocial behavior can be developed. The author indicates that the same factors which increase the likelihood of adolescent antisocial behavior can be induced using nonphysical punishments as well. The author feels parents teach their children to focus on their personal self-interests when they resort to harsh forms of discipline.

This problem is enhanced when the personalities of the parties involved in family interaction processes can be described as irrational and explosive. As Caspi and Elder (1986:236) state, "unstable personalities are reproduced through unstable family relationships characterized by marital tension and ineffective parenting." Elder et al. (1986) concluded parent's personality does in fact influence their quality of parenting. The authors note the relationship was found to be indirect, but significant.
Larzelle and Patterson (1990:301) believe, "parenting variables consistently predict delinquency more strongly than most other variables..." Patterson et al. (1989) suggest evidence exists which seems to indicate deviance among adolescents can be attributed to a series of factors which contribute to a child's interpretation of life-circumstances. According to the authors, one such element is the quality of parenting. The authors believe children undergo an extensive socialization process conducted by their parents which fosters antisocial traits. Patterson et al., found deviant children to be suffering from two ailments, antisocial tendencies and a lack of prosocial skills, factors attributable to poor parenting. Gottfredson and Hirschi (1990) feel additional factors in the development of antisocial behavior are the level and sincerity of the bond between parent and child, a condition which the authors feel ultimately results in the child failing to develop a sense of self-control.

Simons et al. (1986), concluded studies which have focused on the quality of parenting and its relationship to childhood antisocial behavior found parental rejection was a readily identifiable causal element in cases of adolescent deviance (Whitbeck et al., 1992; Simon et al., 1994). In addition, Simons et al. (1994), in their examination of corporal punishment and parental
involvement, revealed aggression is related to parental rejection, inconsistent discipline, poor monitoring, a lack of effective supervision and a parental attitude identified as uncaring and not simply physical punishment.

Matsueda (1992) concludes the adolescent's self-esteem is substantially influenced by the parents' behavior toward the child. Patterson and Dishion (1985:64) feel the monitoring practices of the parent as well as the methods employed to discipline the child contribute strongly to the antisocial character of the child. They also feel that a pattern of "repeated failures" exists for children and parents exhibiting antisocial behavior. Earlier studies supporting these findings include those conducted by Glueck and Glueck (1950), Loeber and Dishion (1983a), McCord (1979) and West and Farrington (1973).

Loeber and Stouthamer-Loeber (1986b), Gove and Crutchfield (1982), and Nye (1958) all found that factors associated with parenting have the strongest relationship to adolescent behavior. The variables identified as possessing a significant causal relationship with delinquency consisted of involvement, monitoring and rejection.

Simons and Robertson (1989:279), in their study involving adolescent drug use, found "parental rejection puts children at risk for a variety of social and
psychological problems." The authors concluded certain forms of parental behavior result in an increased likelihood of aggressive behavior. It was also felt this manner of parenting limits the development of desirable social values and decreases inhibition toward antisocial behavior.

Laub and Samson (1988) conclude parental antisocial behavior is reconciled by mother's supervision and discipline. According to Laub and Samson, parental factors such as supervision and discipline seem to block the negative effect of parental criminality on the development of adolescent antisocial behaviors.

Larzelere and Patterson (1990:304), in their review of the literature, found mother's skill as a parent impeded the negative influence of such factors as social economic status and contacts with delinquent peers. The authors feel "the parenting variables that most consistently have a strong association with delinquency include parental discipline, involvement (or attachment), rejection, and monitoring."

Simons and Robertson (1989:274) feel a family environment in which the parent-child relationship can be characterized as rejecting fails to reinforce prosocial attitudes and behaviors. The authors indicate that
parental rejection "actually provides training in aggressive, noncompliant behavior."

In a more recent study, Simons et al. (1995) found deviant behavior is positively related to the development of antisocial traits during adolescence and can be attributed to ineffective parenting. This study revealed that an association between parents' reports of grandparents' use of harsh discipline and the third generation's report of the second generation's aggressive parenting practices does exist. According to the authors, this finding supports modeling theory assumptions as well as the claims of several other studies which suggest aggression toward adolescent family members is a behavioral expression, by the parent, of antisocial characteristics. The authors conclude what is being transmitted from one generation to the next is not linked to the generalized acceptance of the norms of violence, but rather the orientation toward antisocial behavior and not simply a predisposition toward aggression and violence as appropriate methods for child rearing.

Other authors report finding that individuals who exhibit antisocial traits are more likely to lack child-rearing skills as a parent and the necessary self-control to adequately complete the lengthy socialization process of
their children (Lahey, 1988; Capaldi and Patterson, 1991; Gottfredson and Hirschi, 1990).

In their study of single parents, Capaldi and Patterson (1991) found single parents with antisocial characteristics did not have good parenting skills. A factor that contributed to the likelihood of their children exhibiting antisocial traits.

Gottfredson and Hirschi (1990:101) report the quality of parenting in families where the parents can be characterized as criminally inclined "tends to be lax, inadequate, or poor." The authors suggest that the criminality of the parent is linked directly to corresponding levels self-control, a characteristic that, according to the authors, contributes to poor socialization processes within the family. This process inhibits proper social development and produces a subsequent generation of deviants.

Kendrick (1988) feels the child inherits the psychological problems of the parent. The author suggests that the adult parent projects onto the child certain emotional disturbances from which the child eventually suffers. Ultimately, the child acts out these same projections when raising their offspring.

Patterson and Dishion (1994:305) indicate available data "provides modest support for the idea that disrupted
discipline by grandparents is correlated with antisocial behavior in the following generations." Findings from their study support the contention that grandparents who utilized an irritable-explosive means of discipline raised offspring who exhibited similar parenting characteristics as adults. The authors found paternal influence fosters adolescent antisocial behavior if the discipline attributable to the father could be characterized as disruptive. Patterson and Dishion (1994), also found antisocial behavior is linked to disruptive parenting practices and antisocial behavior in subsequent generations.

Moffit (1993) believes strongly in the continuity of antisocial behavior. The author contends communication is positively linked to antisocial behavior indicating poor verbal skills contribute to the development of socially deviant behavior. Moffit suggests children suffering from the inability to verbalize their discomforts are vulnerable to environmental influences that contribute to the development of antisocial characteristics.

Patterson and Dishion (1985:63-64) found the "pathogenic impact" of parenting contributes to adolescent antisocial behavior and that this form of behavior is preceded by a breakdown in "family management procedures." Widom (1989) indicates children who suffer from inept parenting in the form of abuse and neglect are more likely
to exhibit antisocial traits that are characterized by physically violent behavior.

Hypotheses

Social learning theory suggests antisocial traits are transmitted from one generation to the next through parental behaviors that model antisocial characteristics as acceptable means of social control and interaction. It is, therefore, reasonable to believe that a positive relationship between the antisocial characteristics of generation one (G1), the grandparents, and the antisocial behavior of generation two (G2), the parents, exists as a result of a modeling effect.

Hypothesis One. Stemming from this reasoning, the argument can be made that antisocial behavior is likely to be transmitted through a modeling process that begins with G1's influence on G2 and continues with G2's influence on G3, or generation three, the grandchildren of G1. If this is indeed the case, G3 will display antisocial tendencies which can be linked to the process of observational learning across time. This relationship is depicted by the paths labeled B and F in Figure 1.

Hypothesis Two. The literature also suggests a parallel assumption can be made concerning the quality of parenting attributable to past generations and the parental
response, in terms of parenting behaviors, of subsequent generations toward their offspring. This relationship is depicted by paths D and G in Figure 1.

Hypothesis Three. It is also hypothesized that an indirect relationship exists between the antisocial characteristics and quality of parenting of the grandparents and the antisocial behavior being exhibited by the parent. This is depicted in Figure 1 using paths A and C. In addition, it is felt that as a result of the antisocial nature of the G2 parent, the parenting behaviors they exhibit will also be affected. This relationship is depicted by paths A, C, and E in Figure 1 and suggests that the antisocial behavior of the parent directly influences their quality of parenting as well as the antisocial behavior and quality of parenting of future generations.

Hypothesis Four. It is further hypothesized, that a positive but indirect association between G1 parenting and antisocial behavior and G2 antisocial behavior and parenting exists. This results in the expression of antisocial behavior by G3, the target generation. This hypothesis is represented by paths A, C, E, and G in Figure 1.

In contrast to several major theories, which have focused heavily on economic status as a precursor to antisocial behavior, it is felt the effects of SES will
have little influence on the development of adolescent antisocial behavior for this sample population. This does not suggest that economic status fails to influence the quality of parenting and a corresponding level of adolescent deviance. In many cases it does play a significant role in the development of antisocial personalities (Skinner 1992).

For the purposes of this study, however, social economic status, as it is estimated by family income and father's education for G2, will be a control variable. Since by controlling for social economic status, the influence this variable has on the development of deviant behavior and the unmanageable contribution of such additional factors as neighborhoods, schools and peer association, the influence of elements strongly associated with social economic status and delinquency will be eliminated.

Model

Using four models, this study will examine the relationship between the social learning process and children's antisocial behavior. The investigation will continue by monitoring the effects of parenting across three generations. In addition, each model will attempt to assess the indirect relationship between antisocial
behavior and parenting in G1, G2 and its influence on the target generation, G3. Models one and two will focus on the relationship between mother's antisocial behavior and adolescent antisocial behavior as well as mother's ability to parent their son or daughter. Models three and four will also explore the relationship of father's antisocial behavior to adolescent antisocial behavior as well as the quality of parenting afforded their son or daughter.

Each model will utilize seven parallel paths and five observable constructs. (See Figure 1). Path relationships have been labeled as A, B, C, D, E, F and G. Paths B and F represent the modeling hypothesis and symbolize the intergenerational continuity of antisocial behavior as it relates to the social learning process. The relationship between antisocial behavior and parenting is depicted by paths A, C, E and G. Path D represents a modeling effect for parenting variables. Paths D and G represent the parenting hypothesis and its relationship to target's antisocial behavior.
Figure 1. Proposed model of the continuity of antisocial behavior across generations.
CHAPTER THREE

METHODS AND PROCEDURES

The proposed analysis examines the influence of parenting and parent's antisocial behavior on adolescent antisocial behavior using longitudinal data from a sample size of approximately two hundred intact families, a total that varied slightly depending on the gender of the target child (G3). Data for this project was originally generated on economic hardship, family relationships and psychological well-being as part of the Iowa Youth and Families Project (IYFP). Permission to use this data was granted by the principle investigators of the project. Structural equation modeling was used to determine the relationships between constructs and across the two waves. Five observable constructs were used: Grandparents' parenting and antisocial behavior, father's and mother's parenting and antisocial behavior and target's antisocial behavior. Each construct was estimated by a standardized composite scale.

Data were gathered over a three year period. Wave 1 data contained information pertaining to grandparents' parenting and antisocial behavior. Wave 3 data were involved in the formation of indicators for the observable constructs of father's and mother's antisocial behavior as
well as for the construct of father's and mother's parenting. The measure used as the index for the parenting construct was obtained by means of self-report data obtained from the respective parent. Wave 3 data were also used to develop the measure of adolescent antisocial behavior using target's self-report of their level of delinquency and substance abuse to form the index that represents this observable construct.

**Sample**

The sample was selected from a population of families living in eight, primarily agricultural, counties in North Central Iowa. Fifty-four percent of the sample lived in small communities with populations of less than 6,500 people. Twelve percent of the sample population lived in rural areas, and 34% of the sample resided on farms. Each family had a child enrolled in a public or private school in the seventh grade during the 1989 school year and a sibling within four years of age of the seventh grade child. From the list of families meeting the specified criteria, seventy-eight percent agreed to participate in this study (Simons et al., 1994; Whitbeck et al., 1992).

Four hundred and fifty one two parent families with one child in the seventh grade and one additional sibling within four years of age of the target child participated
in all six waves of this study. The target child was female in 236 of the cases and male in 215 cases. All of the participants were White. Families ranged in size of from four to thirteen members with an average of 4.9 members. Those families with less than four members were not considered for this project. The annual median family income for parents was $33,700 with 11% of the families having income that fell below the federal poverty level. Grandfather's education ranged from 2 to 20 years of schooling. Grandmother's education ranged from 2 to 18 years of formal education. The median for father's and mother's education was slightly greater than 13 years. The median age for fathers was 40 and for mothers 38 (Simons et al., 1994; Whitbeck et al., 1992).

The families involved in the program were monetarily compensated for their time and efforts. Each family received a total of $250.00 for their participation. Based on an hourly projection of time needed to complete the survey and observation portions of this study, this figured to be approximately $10.00 per hour per family member (Simons et al., 1994; Whitbeck et al., 1992).

**Procedures**

Survey data was collected every year from the families beginning when the target child was in seventh grade and
continuing until the child had reached their senior year in high school. Each data collection effort involved a strict replication of the previous years methods and techniques. The information gathered during the first of two interviews conducted during each wave was obtained using survey questionnaires, personal interviews and video taped and coded observations of family interaction tasks. The questionnaires focused on family processes, personal characteristics of family members, and social economic status. Family members were asked to complete additional questionnaires left by the interviewer, documents that were collected at the second visit. The information obtained covered such facets of family life as parenting practices of the grandparents and their antisocial behavior as well as the goals and aspirations of the parents. This information was to be completed on an individual basis, sealed in an envelope provided by the interviewer and given to the interviewer when they arrived for the second visit. (Simons et al., 1994; Whitbeck et al., 1992; Conger 1993).

Two weeks after the initial interview, researchers contacted the family for the second in this series of visits. During this meeting, each family member was asked to complete a short questionnaire as the first of four tasks to be completed during this visit. This questionnaire was designed to obtain information over two
areas, family concerns and areas of general disagreement between family members. After the questionnaire was completed, the interviewer provided the participating members of the family with a list of items to read and discuss. This portion of the interview was completed by the family acting as a group with the interviewer absent from the discussion. A short time after the discussion was initiated, the interviewer returned and prompted further discussion. The items discussed included: discipline, responsibilities around the house or farm, the children's peers and their performance in school (Simons et al., 1994; Whitbeck et al., 1992; Conger 1993).

The second task also involved the family as a small group. Completion of this task required they select and discuss a substantive issue of concern or a significant area of disagreement. The only limitation on this aspect of the interview was the selection of the issue to be discussed. For the purposes of this project the issue selected had to be one previously identified by family members during the interview process. The third task involved only the target child and the sibling within four years of age that qualified this family for the study. In this portion of the project, both children were asked to discuss their parents' parenting, their peers, and their goals and aspirations for the future. The fourth task
limited participation to the father and mother of the target child. Questions were asked and a discussion followed concerning such issues as risk aversion, parenting, deviancy, and general areas of disagreement. Each of the tasks described above was explained in detail prior to the interviewer leaving the room. All family interaction was video taped and later coded by project observers (Simons et al., 1994; Whitbeck et., 1992; Conger 1993).

Measures

The observable variable constructs consisted of grandparents' antisocial behavior and parenting, father's and mother's antisocial behavior and parenting, and child's antisocial behavior. All indices were formulated using standardized composite scales. This process was selected after it was determined too few cases existed for a multiple indicator latent construct model.

Data collected from the father during Wave 1 were used to estimate both the antisocial behavior and parenting of his parents, while data gathered in response to parallel questions directed at the mother were used to represent parenting and antisocial behavior of her parents.

Grandparents' antisocial behavior. The index for grandparents' antisocial behavior was a standardized
composite measure of retrospective data gathered from the second generation, their adult children, to describe the specific behaviors exhibited by the respondent's parents. Grandparents' antisocial behavior was defined as aberrant behavior marked by inappropriate social interaction at the interpersonal level involving family members and individuals other than relatives. The following questions comprised the scale used to measure grandparents' antisocial behavior. Answers to these questions were obtained using a 5-point Likert scale after recoding so a response of 1 would indicate strongly disagree and a response of 5 would indicate strongly agree. Some of the questions comprising this portion of the scale were: She/he often got angry at the way people treated her/him? She/he often got into arguments with her/his family and others? She/he had a drinking problem? She/he frequently lost her/his temper?

The remaining questions for this measure utilized a 5-point Likert scale with the answers coded allowing 1 to represent a response of strongly agree and 5 to indicate a response of strongly disagree: She/he was a productive person who always got the job done? She/he felt she/he was capable of coping with most of her/his problems? She/he was pretty stable emotionally? (See Appendix A).
Grandparents' parenting. Assessing the quality of parenting was the objective of the measures used to construct this variable. Quality of grandparents' parenting was determined by the degree of satisfaction with the relationship between parents in generation two and their parents, generation one. Grandparents' parenting was then defined as the ability to parent children effectively with emphasis given such factors as monitoring, discipline, warmth and communication.

Questions used to estimate the construct of grandparents' parenting consisted of: How happy were you with your relationship with your mother/father? Answers to this question were obtained using a 4-point Likert scale recoded so a response of 1 would indicate very unhappy and a response of 4 would indicate very happy. Answers to the remaining questions were obtained using a 5-point scale with 1 indicating "always" and 5 "never." The portion of the index measuring parental monitoring is represented by the following two questions: How often did your mother/father know where you were? How often did your mother/father know who you were with when you were away from home?

Grandparents' parenting was also estimated using questions designed to determine factors related to parental discipline that were scored on a 5-point scale recoded so a
response of 1 would indicate "never" and a response of 5 would indicate "always." An example of this series of questions is: When your mother/father told you to stop doing something and you didn't, how often did she/he punish you? Once your mother/father decided on a punishment, how often could you get out of it?

G1 parenting was also measured with answers obtained using a 5-point scale coded so 1 would indicate "always" and 5 "never" to a series of questions directed at measuring reasoning and communication. Two of the questions in this index are: When you and your mother/father had a problem, how often could the two of you figure out how to deal with it? How often did you talk to your mother/father about things that bothered you? (See Appendix B).

The internal reliability for grandfather's antisocial behavior and grandfather's parenting was .79 and .89 respectively using father's responses to questions in the scale represented above. The reliability of the scale measuring grandmother's antisocial behavior using father's report was .78 with an alpha coefficient of .89 for grandmother's parenting. For Mother's report of grandfather's antisocial behavior and her report of grandfather's parenting the alpha coefficients were .85 and .92 respectively. Reliability for mother's report of
grandmother's antisocial behavior was .81 with her report of grandmother's parenting producing an internal reliability of score of .93.

Parent's antisocial behavior. The index used for mother's and father's antisocial behavior, gathered from data collected during Wave 3, was also a standardized composite measure of two separate scales. Parent's antisocial behavior was defined as behavior ruled deviant and or delinquent by social definition. This included such factors as truancy, disorderly conduct, criminal mischief, initiating physical altercations, theft and the consumption of alcohol prior to reaching the age of fifteen.

The first scale used to measure this concept consisted of three questions designed to measure mothers/fathers frequency of deviant behavior by asking the following questions: How often have you .... gotten into a fight that came to hitting or punching another person, including friends or relatives? Not told your [former] spouse the truth about things? Been concerned because you spent too much on lottery tickets or other kinds of betting? Answers to these questions were obtained using a 5-point scale coded in such a fashion that the response represented the frequency of occurrence with 0 meaning "never" and 4 meaning four or more times.
The second scale was comprised of questions which focused on delinquent acts by asking: Did you play hooky from school before the age of 15? Did you tell a lot of lies before the age of 15? Did you more than once steal things from a store or from someone you knew, before the age of 15? This scale utilized a 2-point scale with 1 indicating a response of "Yes" and 2 representing a response of "No." These items were recoded so a response of "No" would equal zero and a response of "Yes" would equal one. The internal consistency for the composite measures of deviant behavior and delinquency that comprised the antisocial index for antisocial behavior of each parent was .50 for mothers and .59 for fathers. (See Appendix C).

Parent's parenting. This construct mimicked grandparents' parenting in terms of conceptual parameters. As with grandparents' parenting, determining the quality of parenting was the first priority and was accomplished using the same dimensions. Parent's parenting was also defined as the ability to parent children effectively.

Self-report data obtained during Wave 3 from each respective parent served as the index for parenting. Again, this index was a standardized composite measure of questions designed to determine the level of consistent monitoring, consistent discipline, harsh discipline, hostility, inductive reasoning, communication, and warmth.
Answers to these questions were obtained using a 5-point scale coded so a response of 1 indicated a response of "always" for the respective variable and a response of 5 indicated "never." These responses were recoded so that the greater the score the more inept the individual was at parenting. Internal reliability for mother's and father's parenting was .86 and .86 respectively.

The scale measuring warmth consisted of responses to the following questions: I really trust this child, I feel he or she has a number of faults, I experience strong feelings of love for him or her. Consistent monitoring was measured using responses to: In the course of a day, how often do you know where he or she is? How often do you know who the target child is with when he or she is away from home? How often do you talk with the target child about what is going on in his or her life?

Consistent discipline was measured in part by asking: Once a punishment has been decided, how often can he or she get out of it? How often do you punish the target child for something at one time, and then at other times not punish him or her for the same thing? When you punish the target child, how often does the kind of punishment you use depend on your mood?

Harsh discipline was measured in part by using responses to the following questions: When the target
child does something wrong, how often do you lose your temper and yell at him or her? How often do you spank or slap the target child when he or she does something wrong?

Communication was measured using the following question: How often does the target child talk to you about things that bother him/her? Inductive reasoning was measured by asking: How often do you ask the target child what he or she thinks before deciding on family matters that involve him or her? How often do you give reasons to the target child for your decisions?

Answers to the questions measuring hostility were obtained in part by the following inquiries using a 7-point scale with 1 corresponding to "always" and 7 indicating "never." The questions were formatted by asking: During the past month, when you and the target child have spent time talking or doing things together, how often did you: Get angry at him/her? Criticize him or her or his/her ideas? (See Appendix D).

Target's antisocial behavior. This construct was defined as behavior that violates social norms and codified specifications of conduct with a focus on behavior prior to the child reaching the age of fifteen. The first of two scales used to measure the adolescent antisocial behavior consisted of thirteen items. These items were dichotomized so an original response of 1 or "never" would now equal
zero, meaning the child did not participate in the questioned behavior. The maximum score for this scale would then be thirteen and this would mean a positive response was obtained for the use of all of the chemical substances listed.

The first scale used to measure target's antisocial behavior consisted of responses gathered from the target child's self-report data and focused on participation in delinquent behavior and substance abuse. This scale was labeled the delinquency scale and consisted in part of answers to the following questions prefixed by the statement: We'd like to know whether you've done any of these things during the past twelve months... run away from home, taken something worth less than $25 that didn't belong to you, taken something worth $25 or more that didn't belong to you, driven a car when drunk, cut classes.

Responses were given on a 5-point scale with questions coded by frequency of the event and thus, a response of "never" would equal zero while a response of 5 would represent 6 or more times.

The second scale consisted of twenty-three items. These items were coded so a response of 1 or "never" would equal zero and a response of 5 would equal 4 meaning the adolescent had participated in a certain behavior six or more times. A score of twenty-three would indicate the
adolescent had participated in all of the behaviors listed one time.

This portion of this scale is represented by the following questions. During the past twelve months, how often did you... smoke or chew tobacco? drink beer, wine or wine coolers? drink hard liquor such as bourbon, vodka, whiskey or gin? use a nonprescription drug for fun or to get high? Responses to each question in this scale were obtained using a 6-point scale with 1 representing a response of "never" and 6 indicating the respondent had used the substance in question three or more times per week. This combination of scales had an alpha coefficient of .91. (See Appendix E).
RESULTS

Sixty-seven percent of the mothers and seventy-two percent of the fathers responding to the questions measuring involvement in deviant behavior indicated they had not committed any of the activities described in the questionnaire. Examining parent's delinquency it was determined that seventy-five percent of the mothers and fifty percent of the fathers reported having participated in none of the delinquent activities listed. The total sample population for was 407 families.

From the sample population of 407 adolescents, 259 respondents indicated they had used an illegal chemical substance either not at all or on only one occasion, one-hundred-twenty-one adolescents revealed they had consumed an illegal drug four times or less, twenty four of the children indicated they had consumed an illegal drug six times or less, and the remaining three adolescents responded by indicating they had consumed an illegal drug or narcotic as many as thirteen or more times.

Findings also show 202 of the respondents had not behaved in the manner described by the questions comprising the second scale. One-hundred-forty-nine of the 407 children surveyed revealed they had participated in four or
fewer of the behaviors described, 42 respondents indicated they had committed nine or fewer of the acts mentioned, the remaining adolescents committed no fewer than ten and as many as twenty-eight of the behaviors in question.

Tables 1 and 2 contain the bivariate correlations for the measures used in this analysis. Table 1 displays those measures used for the mother-daughter and the mother-son models. Table 2 contains the correlations for the father-daughter and father-son models. Coefficients for parent-son models are printed above the diagonal while those for parent-daughter models are displayed below the diagonal.

G1 antisocial behavior and G1 parenting were strongly positively associated in all four models with coefficients ranging in value from .549 in the father-daughter model to .702 in the mother-daughter model. G1 antisocial behavior was positively related to G2 antisocial behavior in all four models. This association was moderate and positive in the mother-son model but only weak and positive in mother-daughter models (r = .233 and .120). The relationship was positive but not significant in the father-daughter model (r = .093) and in the father-son model the strength of the association increased moderately (r = .168).
Table 1
Bivariate Correlations for Mother's Model
(Daughters Below The Diagonal. Sons Above The Diagonal)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. G1 Antisocial Behavior</td>
<td>1.00</td>
<td>0.667**</td>
<td>0.233**</td>
<td>0.164*</td>
<td>0.063</td>
<td>29.94</td>
<td>8.62</td>
</tr>
<tr>
<td>2. G1 Parenting</td>
<td>0.702**</td>
<td>1.00</td>
<td>0.306**</td>
<td>0.389**</td>
<td>0.135</td>
<td>77.26</td>
<td>30.58</td>
</tr>
<tr>
<td>3. G2 Antisocial Behavior</td>
<td>0.120</td>
<td>0.248**</td>
<td>1.00</td>
<td>0.24**</td>
<td>0.118</td>
<td>0.23</td>
<td>0.082</td>
</tr>
<tr>
<td>4. G2 Parenting</td>
<td>0.268**</td>
<td>0.292**</td>
<td>0.230**</td>
<td>1.00</td>
<td>0.193**</td>
<td>0.29</td>
<td>0.23</td>
</tr>
<tr>
<td>5. G3 Antisocial Behavior</td>
<td>0.038</td>
<td>0.072</td>
<td>0.257**</td>
<td>0.181**</td>
<td>1.00</td>
<td>0.23</td>
<td>1.96</td>
</tr>
<tr>
<td>Mean</td>
<td>30.63</td>
<td>81.55</td>
<td>-0.014</td>
<td>-0.30</td>
<td>-0.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>7.91</td>
<td>34.12</td>
<td>2.37</td>
<td>4.66</td>
<td>1.48</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. G1 = First Generation; G2 = Second Generation; G3 = Third Generation
* p < .05. ** p < .01.
Table 2

Bivariate Correlations for Father's Model
(Daughters Below The Diagonal, Sons Above The Diagonal)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. G1 Antisocial Behavior</td>
<td>1.00</td>
<td>.673**</td>
<td>.168*</td>
<td>.132</td>
<td>-.085</td>
<td>29.92</td>
<td>7.09</td>
</tr>
<tr>
<td>2. G1 Parenting</td>
<td>.549**</td>
<td>1.00</td>
<td>.180*</td>
<td>.238**</td>
<td>-.042</td>
<td>78.92</td>
<td>25.27</td>
</tr>
<tr>
<td>3. G2 Antisocial Behavior</td>
<td>.093</td>
<td>.232**</td>
<td>1.00</td>
<td>.216**</td>
<td>.084</td>
<td>-.09</td>
<td>2.57</td>
</tr>
<tr>
<td>4. G2 Parenting</td>
<td>.084</td>
<td>.341**</td>
<td>.134</td>
<td>1.00</td>
<td>.201**</td>
<td>-.12</td>
<td>4.17</td>
</tr>
<tr>
<td>5. G3 Antisocial Behavior</td>
<td>-.032</td>
<td>-.017</td>
<td>.181**</td>
<td>.207**</td>
<td>1.00</td>
<td>.26</td>
<td>1.96</td>
</tr>
</tbody>
</table>

Mean | 30.52 | 79.81 | .017 | -.097 | -.30 |

Standard Deviation | 6.43 | 26.89 | 2.28 | 4.29 | 1.48 |

Note. G1 = First Generation; G2 = Second Generation; G3 = Third Generation
* p < .05. ** p < .01.
G1 parenting and G2 antisocial behavior displayed coefficients of .180 in the father-son model, .232 in the father-daughter model, .306 in the mother-son model and .248 in the mother-daughter model. G1 parenting shared a moderately positive relationship with G2 parenting with values of .238 in the father-son model, .341 in the father-daughter model, .389 in the mother-son model and .292 in the mother-daughter model.

A significant and positive relationship existed for G1 antisocial behavior and G2 parenting in the mother-daughter model (r = .292). The relationship, although a positive one, was not significant in the father-daughter model (r = .084). In the mother-son model the coefficient was .268 and in the father-son model the value was .132. G1 parenting and G2 parenting shared a significantly positive relationship in all four models with coefficients ranging from .238 in the father-son model to .389 in the mother-son model. G3 antisocial behavior exhibited a moderate but positive relationship with G2 antisocial behavior achieving a coefficient value of .181 in the father-daughter model but was not significant in the father-son model (r = .084). These variables exhibited a moderate, but positive relationship in the mother-daughter model (r = .257), and a weak relationship in the mother-son model (r = .118). G3 antisocial behavior displayed a moderate and positive
relationship with G2 parenting in the father-daughter and
father-son models ($r = .207$ and $.201$). The mother-daughter
and mother-son model exhibit a moderately positive
relationship between G3 antisocial behavior and G2
parenting ($r = .181$ and $.193$).

The mother-daughter and mother-son models show a
moderate positive relationship between both G2 antisocial
behavior and G2 parenting ($r = .230$ and $.240$). The father-
son model also exhibits a moderate positive relationship
between G2 antisocial behavior and G2 parenting ($r = .216$).
This is not the case for the father-daughter model
($r = .134$).

The proposed models fit the data for both parents,
$x^2(2.53, 3df), p = .470$ with a critical $N$ of 614.78 for the
mother-daughter model. The mother-son model had a chi-
square value of $x^2(4.32, 3df), p = .229$ with a critical $N$ of
307.39. The father-daughter model had a chi-square value
of $x^2(6.91, 3df), p = .075$ with a critical $N$ of 220.15. The
father-son model had a chi-square of $x^2(3.27, .3df), p =
.351$ with a critical $N$ of 407.64. Note Figures 2, 3, 4,
and 5 show the results using structural equation modeling
to test each model.

The retrospective data provided by G2 indicates a
strong relationship between the antisocial characteristics
and parenting techniques of G1 in all four models ($B_{21} =$
The self-report data obtained from G2 revealed a significant relationship between parent's antisocial behavior and parenting in all but the father-daughter model for G2 ($B_{43} = .17, .13, .06, .18$). None of the models displayed a significant relationship between the antisocial behavior exhibited by G1 and the antisocial behavior of the responding G2 parent ($B_{31} = -.11, .05, -.05, .086$).

G1 parenting, however, was significantly related to G2 parenting in all four models ($B_{42} = .25, .35, .33, .21$). G1 parenting was also a significant factor in the development of antisocial behavior by G2 in three of the four models tested ($B_{32} = .32, .27, .26$) with the father-son model the only exception ($B_{32} = .12$).

Two of the four models exhibited a significant relationship between the antisocial characteristics of G2 with those exhibited by G3, when the target generation was female, although the association was stronger for mothers than it was for fathers ($B_{53} = .23, .16$) respectively. All four models displayed a significant relationship between G2 parenting and G3 antisocial behavior ($B_{44} = .13, .17, .19, .19$).

Measuring across three generations, the relationship of parent antisocial behavior to adolescent antisocial behavior was not significant in any of the four models ($B_{31}$,
and $B_{53} = -0.11$ and $0.23$, $0.05$ and $0.08$, $-0.05$ and $0.16$, $0.09$ and $0.04$). It was, however, significant for a two generation comparison of antisocial influence in the mother-daughter and father-daughter models providing partial support for a modeling perspective ($B_{53} = 0.23$, and $0.16$).

Parenting exhibited a significant relationship across generations with target's antisocial behavior in each of the four models ($B_{42}$ and $B_{43} = 0.25$ and $0.13$, $0.35$ and $0.17$, $0.33$ and $0.19$, $0.21$ and $0.19$). Modeling was also supported by an examination of the relationship between G1 parenting and G2 parenting where all four path coefficients were significant ($B_{42} = 0.25$, $0.35$, $0.33$ and $0.27$).

The indirect effect of antisocial behavior on parenting was significant in the mother-daughter model ($B_{21} = 0.70$, $B_{32} = 0.32$ and $B_{43} = 0.17$). It was also significant in the mother-son model ($B_{21} = 0.67$, $B_{32} = 0.27$, and $B_{43} = 0.13$). For the father-daughter model two of the three paths were significant ($B_{21} = 0.55$, $B_{32} = 0.26$). The path between G2 antisocial behavior and G2 parenting was not significant ($B_{43} = 0.06$). In the father-son model paths $B_{21}$ and $B_{43}$ were significant, path $B_{32}$ was not ($B_{21} = 0.67$, $B_{43} = 0.18$ and $B_{32} = 0.12$).
Figure 2. Model for Mothers and Daughters

\[ \chi^2 = 2.53, \text{3df} \]
\[ \text{GFI} = .995 \]
\[ \text{CN} = 614.78 \]
\[ p = .470 \]
Figure 3. Model for Mothers and Sons

\[ \chi^2 = 4.32, 3 \text{df} \]
\[ \text{GFI} = .990 \]
\[ \text{CN} = 307.39 \]
\[ p = .229 \]
Figure 4. Model for Fathers and Daughters

\[
G1 \text{ Antisocial Behavior} \rightarrow -0.05 (-0.60) \rightarrow G2 \text{ Antisocial Behavior} \\
G1 \text{ Parenting} \rightarrow 0.55 (9.3)** \rightarrow G2 \text{ Parenting} \\
G1 \text{ Antisocial Behavior} \rightarrow 0.26 (3.2)** \rightarrow G2 \text{ Antisocial Behavior} \\
G2 \text{ Parenting} \rightarrow 0.33 (4.8)** \\
G3 \text{ Antisocial Behavior} \rightarrow 0.16 (2.3)** \\
G3 \text{ Antisocial Behavior} \rightarrow 0.19 (2.7)** \\
\]

\[\chi^2 = 6.91, \quad \text{GFI} = .987, \quad \text{CN} = 220.15, \quad p = .075\]
Figure 5. Model for Fathers and Sons

\[ \chi^2 = 3.27, \text{3df} \]
\[ \text{GFI} = .993 \]
\[ \text{CN} = 407.64 \]
\[ p = .351 \]
DISCUSSION

Findings suggest the parental modeling of antisocial behavior is less of a factor in the development and expression of antisocial behavior by the target child than is quality of parenting. Data reveals a significant and direct relationship for parenting variables in generations one and two suggesting a linkage between parenting and target's antisocial behavior. In addition, data seems to indicate that the quality of parenting significantly influences the development of antisocial behavior in generations two and three. This is not the case when measuring the continuity of antisocial behavior across generations using a social learning perspective. However, evidence of a modeling effect for parenting between G1 to G2, a significant relationship that was present in all four models, does exist. Findings also point toward an indirect effect between antisocial behavior and parenting suggesting a more complex relationship than posited by each individual theory.

Results depict mothers and fathers as exerting equal levels of influence over sons, while fathers influence the antisocial tendencies of their daughters to a greater extent than do mothers. This conclusion is worth noting
since it appears to link participation in antisocial behavior by the male child to parenting displayed by both parents and not just those of the father.

This finding respectfully questions the contention of such authors as Bandura et al. (1963) who posited same sex models have greater influence on developmental tendencies and Kurz (1991) who believed relationships between parenting and a child's behavior vary according to the sex of the parent and the child involved in the relationship. MacWen (1994) also indicates that the likelihood of a child exhibiting antisocial behavior is linked to identification with the aggressor as well as the gender of the model and observer. The authors' claims that same sex modeling is more influential than opposite sex modeling are questioned given findings from this data.

This research supports efforts which posit that the manner of parenting and its influence on behavioral dispositions is consistent across generations. A host of authors have indicated parenting is a significant factor in the development of antisocial behavior in future generations (Belsky and Pensky 1988; Gove and Crutchfield 1982; Larzelere and Patterson 1990; Loeber and Stouthamer-Loeber 1986b; Nye 1958; Watson 1987).

Following this line of investigation, other research has identified specific elements of parenting as factors
contributing to the development of antisocial behavior. These authors conclude that disruptive as well as harsh parenting increases the likelihood of antisocial behavior in future generations and that parental rejection is one of the causal factors of adolescent antisocial behavior (Larzelere and Patterson 1990; Patterson and Dishion 1994; Patterson and Dishion 1985; Simons 1995; Simons et al., 1991; Simons and Robertson 1989; Simons et al., 1986). The construct of parenting, as measured for the purposes of this study, included such factors as rejection and harsh discipline and found ample support for the contentions made by these authors.

The expression of antisocial behavior, based on a modeling effect, was not consistent across generations. Data analysis revealed no direct significant relationship between the antisocial characteristics of G1, the grandparents, G2, the parents, and G3, the target generation. Thus, the first hypothesis was not confirmed by this study.

Findings confirm the intergenerational continuity of G1 and G2 parenting on G3 antisocial behavior, hypothesis number two. Evidence from the paths connecting these constructs, as depicted in Figures 2, 3, 4, and 5, reveals parenting does influence the development of antisocial behavior in the target generation.
Data used to test the third hypothesis revealed G1 parenting was a significant factor in G2 antisocial behavior in the mother-son and mother-daughter models as can be seen in Figures 2 and 3. When examining the data for fathers, Figures 4 and 5 reveal G1 parenting does not significantly influence antisocial behavior in G2 for the father-son model, but G1 parenting behavior does influence the level of G2 antisocial behavior in the father-daughter model. Interpretation becomes more complex with further examination. Findings for the father-son model suggest G2 antisocial behavior does influence G2 parenting, however, this effect is not significant in the father-daughter model. Thus, support for the contention that antisocial behavior consistently influences parenting across generation one and two is considered moderate.

The final hypothesis received modest support as well. It appears from the analysis of available data, parenting is a moderately significant factor in the intergenerational continuity of antisocial behavior. Paths linking the antisocial behavior and parenting constructs for both generations were significant for mothers but not for fathers. No explanation can be given concerning the insignificant relationship between G2 antisocial behavior and G2 parenting in lieu of the significant relationship between G2 parenting and G3 antisocial behavior in the
father-daughter model. Equally difficult to interpret was the finding of a relationship that was not statistically relevant involving G1 parenting and G2 antisocial behavior in the father-son model even though a significant relationship was found for G2 antisocial behavior and G2 parenting.

The failure to find a significant relationship between antisocial variables may be linked to several factors. First, the information was gathered from one source, the fathers and mothers in generation two. The self-report and retrospective data were then used to develop the indices for the observable constructs of grandparents' antisocial behavior and parenting as well as parent's antisocial behavior and parenting. A more in-depth study, privileged to a larger, more diverse sample population, might elect to use multiple sources of information in hopes of limiting problems related to obtaining data from one source that influences the construction of indice for more than one variable. This would decrease the shared error variance and may improve the overall fit of the model to the data.

Additional insight might also be obtained using a sample population structure differing in terms of socio-demographic characteristics. The population involved in this study would not be considered deviant by societal standards, and given the respondents social, demographic
and economic background, the probability of pronounced deviant behavior is highly unlikely.

Subsequent research may also wish to consider utilizing a larger sample population drawn from the inner city of a large metropolitan community. However, data collection problems for such an effort may be insurmountable due to the respondents' general lack of trust in government institutions and the poor likelihood of successfully obtaining a randomized sample population willing to respond to researchers' inquiries over time.

Research using family violence variables, in addition to the factors used in this study, may also lend itself well to an examination of parenting and antisocial behavior across generations and its influence on adolescent antisocial behavior.

Future research electing to examine the effects of parental modeling of antisocial behavior on adolescent displays of deviant behavior may wish to incorporate the adolescent's interpretation of the rewards and punishment experienced by each parent as a result of their antisocial behavior in order to more accurately determine the child's willingness to participate in similar behavior. Social learning variables may also need additional representation, in terms of the number of scales used to measure this construct, for future investigative projects in order to
offset the depth of indices available for measuring parenting.

Factors external to the immediate family environment could also prove useful in addressing the causes of adolescent antisocial behavior. Measuring the impact of such community variables as neighborhoods, educational and recreational resources and deviant peer associations may assist in explaining additional variance.

Evidence seems to suggest social intervention in the treatment of adolescent antisocial behavior needs to focus more closely on treating the parent's inability to properly parent the child as much if not more than on the child's behavioral symptoms. Limiting forms of intervention to the expression of antisocial behavior by the child overlooks the highly probable source of this problematic behavior and ultimately serves little or no meaningful, long range purpose.
APPENDIX A

G1 ANTISOCIAL BEHAVIOR

G2 REPORT

Indicate whether you agree or disagree that the following statements describe what your mother/father was like when you were growing up.

1 = strongly agree
2 = agree
3 = neutral/mixed
4 = disagree
5 = strongly disagree
8 = na, no one was a mother/father to you during this time
9 = dk, missing info

1. She/he often got angry at the way people treated her/him.
2. She/he was a productive person who always got the job done.
3. She/he often got into arguments with her/his family and others.
4. She/he felt she/he was capable of coping with most of her/his problems.
5. She/he had a drinking problem.
6. She/he was pretty stable emotionally.
7. She/he frequently lost her/his temper.
8. She/he abused prescription or illegal drugs.
APPENDIX B
G1 PARENTING
G2 REPORT

Think about how you got along with your mother/father when you were the same age as your 7th grader. Then indicate whether you were:

1 = very happy
2 = fairly happy
3 = fairly unhappy
4 = very unhappy
8 = na, no was a mother to you during this time
9 = dk, missing info

1. How happy were you with your relationship with your mother/father?

Indicate how you interacted with your mother/father when you were about the same age as your 7th grader.

1 = always
2 = almost always
3 = about half the time
4 = almost never
5 = never
8 = na, no one was a mother to you during this time
9 = dk, missing info
2. In the course of a day, how often did your mother/father know where you were?

3. How often did your mother/father know who you were with when you were away from home?

4. How often did your mother/father talk with you about what was going on in your life?

5. How often did you have a set time to be home or in bed on weekend nights?

6. How often did your mother/father know if you came home or were in bed by the set time?

7. How often was your mother/father too busy or unavailable to do things with you?

8. When your mother/father asked you to do something and you didn't do it right away, how often did she give up?

9. When your mother/father told you to stop doing something and you didn't stop, how often did she punish you?

10. Once your mother/father decided on a punishment, how often could you get out of it?

11. How often did your mother/father punish you for something at one time and then at other times not punish you for the same thing?

12. When your mother/father punished you, how much did the kind of punishment you got depend on her mood?
13. When you did something wrong, how often did your mom/dad ground you?
14. When you did something wrong, how often did you mom/dad lose her/his temper and yell at you?
15. When you did something wrong, how often did your mom/dad spank or slap you?
16. When punishing you, did your mom/dad ever hit you with a belt, paddle or something else?
17. When you did something wrong, how often did your mom/dad tell you to get out or lock you out of the house?
18. How often did your mother/father disagree with your father/mother about punishing you?
19. On a weekly basis, how often did you and your mother/father have serious arguments?
20. How often did the same problems come up again and again with your mother/father and never seem to get solved?
21. When you and your mother/father had a problem, how often could the two of you figure out how to deal with it?
22. How often did you talk to your mother/father about things that bothered you?
23. How often did you mother/father ask you what you thought before deciding on family matters that involved you?

24. How often did your mother/father give you reasons for her decisions?

25. How often did your mother/father ask you what you thought before making a decision about you?

26. When you didn't understand one of your mother's/father's rules, how often did she explain the reason for it?

27. How often did your mother/father discipline you by reasoning, explaining, or talking to you?

28. When you did something your mother/father liked or approved of, how often did she/he let you know she/he was pleased about it?

Indicate whether you agree or disagree that the statements describe how your mom/dad felt about you.

1 = strongly agree
2 = agree
3 = neutral/mixed
4 = disagree
5 = strongly disagree
8 = na, no one was a mother/father to me during this time
9 = dk, missing data
29. My mother/father really trusted me.

30. My mother/father found fault with me even when I didn't deserve it.

31. My mother/father really cared for me.

32. My mother/father was dissatisfied (unhappy) with the things I did.

33. My mother/father blamed me for her problems.
APPENDIX C
G2 ANTISOCIAL BEHAVIOR
G2 REPORT

How often have the following things happened to you during the past 12 months. How often have you...

0 = Never
1 = One Time
2 = Two Times
3 = Three Times
4 = Four or More times
9 = Missing

1. Gotten into a fight that came to hitting or punching another person, including friends or relatives.
2. Not told your former spouse the truth about things.
3. Been concerned because you spent too much on lottery tickets or other kinds of betting.

The next questions ask about the things you might have done before you turned 15.

1. Yes
2. No.

4. Did you play hooky from school before the are of 15?
5. Did you tell a lot of lies before the age of 15?
6. Did you more than once steal things from a store or from someone you knew?

7. Before the age of 15, did you ever deliberately start a fire you were not supposed to?

8. Did you drink alcohol before the age of 15?

9. Before the age of 15, did you ever drink enough alcohol to get drunk?

10. Did you often start physical fights before the age of 15?
APPENDIX D
G2 PARENTING
G2 REPORT

Please circle the number that best indicates how you relate to the target child and what kind of expectations you have of him or her.

1. Always
2. Almost Always
3. About Half The Time
4. Almost Never
5. Never
6. Missing

1. In the course of a day, how often do you know where he or she is?
2. How often do you know who the target child is with when he or she is away from home?
3. How often do you talk with the target child about what is going on in his or her life?
4. How often do you know if he or she came home or was in bed by the set time?
5. How often do you give up when you ask the target child to do something and he or she doesn't do it?
6. Once punishment has been decided, how often can he or she get out of it?
7. How often do you punish the target child for something at one time, and then at other times not punish him or her for the same thing?

8. When you punish the target child, how often does the kind of punishment you use depend on your mood?

9. How often do you and your [former/] spouse disagree about punishing the target?

During the past month, when you and the target child have spent time talking or doing things together, how often did you ...

1. Always

2. Almost Always

3. Fairly Often

4. About Half The Time

5. Not Too Often

6. Almost Never

7. Never

8. No Contact

9. Missing

10. Get angry at him/her.

11. Criticize him/her of his/her ideas.

12. Shout or yell at him/her because you were mad at him/her.
13. Argue with him/her whenever you disagree about something.
14. Hit, push, grab or shove him/her.

Now circle the number that best indicates how you relate to the target child and what kind of expectations you have of him or her.

1. Always
2. Almost Always
3. About Half The Time
4. Almost Never
5. Never
6. Missing

15. How often do you ask the target child what he or she thinks before deciding on family matters that involve him or her?
16. How often do you give reasons to the target child for your decisions?
17. How often do you ask the target child what he or she thinks before making decisions that affect him or her?
18. When he or she doesn't know why you make certain rules, how often do you explain the reasons?
19. How often do you discipline the target child by reasoning, explaining or talking to him or her?
20. How often does the target child talk to you about things that bother him or her?

These questions are about the target child. Circle the answer which describes how much you agree or disagree with the following statements about him or her.

1. Strongly Agree
2. Agree
3. Neutral
4. Disagree
5. Strongly Disagree
9. Missing

21. I really trust this child.

22. I experience strong feelings of love for him or her.
We'd like to know about any drug or alcohol use you have been involved in during the past 12 months. Please be honest. Remember that your answers are completely confidential. During the past 12 months, how often have you ...

1. Never
2. 1 or 2 Times
3. 3 to 11 Times
4. About 1-3 Times Per Month
5. About 1-2 Times Per Week
6. About 3 or More Times Per Week
9. Missing

1. Smoked Cigarettes.
2. Used smokeless tobacco, snuff, chewing tobacco.
3. Drunk beer.
4. Drunk hard liquor, such as bourbon, whiskey, vodka, or gin.
5. Used nonprescription drugs for fun or to get "high", such as Vivarin, No Doz, diet aids, etc.
6. Used marijuana, hashish, pot, grass, weed, etc.
7. Used gasoline, glue or other inhalants to get high ("rush," solvents, etc.)
8. Used hallucinogens (LSD, mescaline, PCP, peyote,"shrooms," mushrooms, acid, etc.)
9. Used barbiturates (downers, quaaludes, sopers, reds etc.) to tranquilizers (librium, valium, etc.).
10. Used amphetamines (speed, black cadillacs, white cross, crystal).
11. Use cocaine, "ice," crack, etc.
12. Used prescription drugs for fun or to get "high" without a doctor's prescription.

The following is list of behaviors related to laws and rules. We'd like to know whether you've done any of these things during the past 12 months. This is personal and confidential. No one will know how you answered these questions. Please be honest in answering them. During the past 12 months, have you ...

13. Run away from home.
14. Taken something worth less than $25 that didn't belong to you.
15. Taken something worth $25 or more that didn't belong to you.
16. Driven a car when drunk.
17. Cut classes or stayed away from school without permission.
18. Taken a car or other vehicle without the owner's permission, just to drive around.
19. Beat up on somebody or fought someone physically because they made you angry (other than just playing around).
20. Gone to court or placed on probation for something you did.
21. Been placed in juvenile detention or jail.
22. Snatched someone's purse or wallet without hurting them.
23. Been drunk in a public place.
24. Purposely damaged or destroyed property that did not belong to you.
25. Broken into or tried to break into a building just for fun or to look around.
26. Broken into or tried to break into a building to steal or damage something.
27. Thrown objects such as rocks or bottles at people to hurt or scare them.
28. Attacked someone with a weapon, trying to seriously hurt them.
29. Sold illegal drugs such as pot, grass, hash, LSD, cocaine, or other drugs.

30. Used a weapon, force or strong arm methods to get money or things from someone.

31. Been picked up by the police for something you did.

32. Set fire to a building or field or something like that just for fun.

33. Sneaked into a movie, ballgame or something like that without paying.

34. Gotten into trouble for driving a car without a license.

35. Gotten a ticket for speeding or other traffic violations in a car.
APPENDIX F

MOTHER'S REPORT OF

MOTHER'S DEVIANT BEHAVIOR

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### APPENDIX G

**MOTHER'S REPORT OF MOTHER'S DELINQUENT BEHAVIOR**

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### APPENDIX H

**FATHER'S REPORT OF**

**FATHER'S DEVIANT BEHAVIOR**

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### APPENDIX I

**FATHER'S REPORT OF FATHER'S DELINQUENT BEHAVIOR**

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APPENDIX J

TARGET'S REPORT OF

TARGET'S CHEMICAL SUBSTANCE USE

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APPENDIX K

TARGET'S REPORT OF TARGET'S DELINQUENCY

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