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ADOLESCENT ANTISOCIAL BEHAVIOR, PERCEIVED PARENTAL  
BEHAVIORS, AND PERCEPTION OF CONTROL

DISSERTATION

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By

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The study examined the relationships between various parental discipline styles and perceived powerlessness in antisocial adolescents. The literature on adolescent antisocial behavior frequently describes states of disaffection, alienation, and powerlessness as characteristic of the delinquent youth. The parent-child relationship is also frequently implicated as the significant precursor of antisocial behavior in adolescents. The purpose of this study was to determine if perception of control orientations function as cognitive mediators between perceived styles of parental discipline and subsequent behavior in adolescents.

The study examined the literature in three major areas: perception of control and adolescent antisocial behavior, the developmental antecedents of perception of control orientations, and the developmental antecedents of antisocial behavior. As a result, one general hypothesis and fourteen specific hypotheses were generated regarding the interrelationships of these three areas. Subjects were 30 male and 30 female adolescents detained at a large juvenile detention center. Control group subjects were 30 male and 30 female high school students. Three questionnaire-type instruments

were used in this study. One was a standardized measure of perceived parental discipline styles, and one was a modification of a recently developed multidimensional locus of control scale. The third instrument was developed by the author specifically for this study to measure the contingency and predictability of parental discipline. High internal consistency estimates were obtained on the modified locus of control scale, and moderate internal consistency estimates were obtained on the newly developed contingency and predictability of parental discipline scales.

The general hypothesis that cognitive control orientations mediate parental styles and antisocial behavior was supported by the data from female adolescents only. However, perceived powerlessness did not discriminate between antisocial and nonantisocial females, while attributions to ability, impersonal others and personal others did. Antisocial males scored higher on measures of attribution to impersonal others and uncertainty of attributions. Unpredictable punishment was found to be a significant antecedent of antisocial behavior in females.

Interrelationships between the two parental discipline scales indicated that nurturance is perceived as an unpredictable and noncontingent parental style. Principled discipline and predictability of standards were found to be forms of contingent punishment. Contrary to prediction,

instrumental companionship was found to be a noncontingent form of reward.

It was concluded, on the basis of the data obtained from this study, that antisocial adolescents do not perceive themselves to be more powerless than nonantisocial adolescents. It was recommended that caution should be exercised in applying such a label to those exhibiting antisocial patterns of behavior. It was also concluded that punishment applied in an unpredictable fashion may have detrimental effects on the development of female adolescents.

It was further argued that perception of control is a multidimensional construct and that unidimensional measures of this construct may limit its analysis. The scale developed to measure predictable and contingent reinforcement has reasonable potential as an important addition to research in child development and should be subjected to further revision to improve its usefulness.

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ADOLESCENT ANTISOCIAL BEHAVIOR, PERCEIVED PARENTAL  
BEHAVIORS, AND PERCEPTION OF CONTROL

The degree to which one perceives that he exercises control over his environment appears to be related to a wide variety of maladaptive human behaviors. Several authors (Elliott, 1962; Gold, 1963; Jaffe, 1963; Liu & Fahey, 1963; Seeman, 1963) have suggested that a lack of control over one's fate (described variously as alienation, powerlessness, or disaffection) is an important dimension in the cause of adolescent antisocial behavior. Bachman (1970) concluded that the single most predictive indicator of adolescent antisocial behavior is the parent-child relationship.

Statement of the Problem

The problem of this study was two-fold. The first was to examine various styles of parental discipline to determine which styles were related to powerlessness in adolescents. The second was to determine whether the parental styles which were related to powerlessness were unique to the parents of antisocial adolescents. In this way, this study attempted to determine if low perception of control or powerlessness was a cognitive mediator between specific parental discipline styles and subsequent antisocial behavior in adolescents.

Purposes of the study

The first purpose of the present study was to determine the usefulness of a modified version of the Control Scale



(Barroso, 1974) as a measure of the perception of control construct in applied personality research. The concept of control has a long history in the literature about maladaptive behavior (Cannon, 1942; Durkheim, 1897) and is currently a popular construct in the research on personality (Sechrest, 1976).

Rotter (1954, 1955, 1960) completed the first major attempt to operationalize the control construct within a framework of social learning theory. He explained that the behavioral consequences of reinforcement are determined, in part, by the strength of one's belief that his own behavior controls the occurrence of rewards versus the strength of one's belief that reward occurs independent of his own behavior or because of the action of some external force. Rotter labeled this construct "locus of control," and to measure it, in 1966 devised the Rotter I-E scale. This scale provides a single score on an internality-externality dimension. Persons who score high on internality are said to believe that their own behavior influences the occurrence of rewards and punishments, whereas those who score low on internality are said to believe that rewards and punishments are controlled by other persons or by chance.

Certain problems have been outlined concerning the use of the unidimensional Rotter I-E scale as a measure of perception of control. Critics (Barroso, 1974, 1976; Gurin, Gurin, Lao, & Beattie, 1969; Joe, 1971; Lao, 1970; Lefcourt,

1972; Mirels, 1970) have argued that perception of control is a multidimensional construct and the Rotter I-E scale confounds several independent dimensions because it gives only one score.

Barroso (1974) developed the Control Scale, which can measure perception of control independent of the internal-external attribution dimension. The use of the Control Scale thus allows a separate and independent measure of control, a measure that was unobtainable with previously developed locus of control instruments.

A second purpose of the present study was to provide empirical support for the various alienation and powerlessness hypotheses offered to explain adolescent antisocial behavior. Some authors have stated that previous attempts to link criminal behavior to the perception of control construct (LeBlanc & Tolor, 1972; Lefcourt & Ladwig, 1966; Levenson, 1975) have failed because the locus-of-control instruments used in the various studies did not adequately measure powerlessness or alienation. The Control Scale provides a direct measurement of one's perception of control or lack of control. The control score is theoretically similar to the dimensions of alienation and powerlessness and thus renders these hypothetical dimensions amenable to empirical evaluation.

The third purpose of the present study was to examine the relationship between various styles of parental

discipline and the development of a sense of powerlessness or alienation. While several studies have attempted to specify the origins of locus of control in child-rearing patterns (Chance, 1965; Crandall, Katkovsky, & Crandall, 1965; Davis & Phares, 1969; Levenson, 1973; Loeb, 1975; MacDonald, 1971; Nowicki & Segal, 1974; Yates, Kennelly, & Cox, 1975), none of the locus of control instruments used in these studies provided a measure of control independent of the source of attribution.

According to Sechrest's (1976) article on personality, the research on parental antecedents has provided "very little evidence concerning the origins of locus of control" (p. 15). Ample evidence, however, indicates that specific parental styles do lead to a child's feeling of helplessness or lack of control over his environment, and that these styles may later generate antisocial behavior in the child (Baumrind, 1966, 1971; Becker, 1964; Hoffman, 1960; Shaefer, 1959; Shaefer & Bayley, 1963). The parental styles these authors have described can be defined in terms of the perceived parental behaviors that the child recalls about his relationship with his parents.

Two instruments were used to measure parental styles. The first, MacDonald's (1971) revision of the Perceived Parenting Questionnaire, which was originally developed by Devereux, Bronfenbrenner, and Rogers (1969), provided independent measures of the parental behaviors described by

Baumrind (1966), Becker (1964), Hoffman (1960), and Shaefer (1959) and has been used in previous locus of control research (MacDonald, 1971). The second instrument, the Contingency and Predictability of Parental Discipline Questionnaire, was developed as a part of the present study.

The development of the Contingency and Predictability of Parental Discipline Questionnaire constituted the fourth and final purpose of the present study. This questionnaire was designed to measure the extent to which the child perceives his parents as having issued rewards and punishments on a contingent and predictable basis. Rotter (1966) suggested that the consistency and predictability of rewards and punishments practiced by parents may have a direct bearing on the child's locus of control orientation. Others (Glueck & Glueck, 1950; McCord, McCord, & Howard, 1961) have noted relationships between the parents' consistency of discipline and antisocial behavior in children and adolescents.

Yates et al. (1975) developed an instrument to measure perceived consistency and predictability of parental rewards and punishments, which was based on an instrumental conditioning paradigm--i.e., parental reinforcements are contingent on the child's behavior. However, it is also possible to view the child's perception of the predictability and consistency of parental discipline from a classical conditioning perspective. Rewards and punishments from parents

may occur independent of any instrumental response on the part of the child and may be consistent and predictable based on certain cues in the environment which the child perceives to be correlated with the acts of parental discipline. The Contingency and Predictability of Parental Discipline Questionnaire was designed to measure the consistency and predictability of parental discipline resulting from both instrumental and classical circumstances.

#### Theoretical Background and Related Research

Perception of control. One's perception of control or the extent to which one believes that he exercises influence over the environment has been related to a large spectrum of human behavior. Cannon (1942) suggested that organisms kept in a state of perceived powerlessness may die if the perception of powerlessness is accompanied by extreme anxiety. He noted that persons who became aware that they had been placed under a voodoo curse would often succumb to the curse simply because they firmly believed they had no power over their fate. Similarly, Bettelheim (1960) reported that prisoners in Nazi concentration camps who were led to believe that they existed in an environment over which they exercised no influence reacted as "living corpses."

Research describing the causes and symptoms of various maladaptive behaviors demonstrates that perception of control pervasively influences human functioning. Mandler (1952) stated that a central characteristic of all views of

neurotic anxiety is the feeling of not being in control. "Experimental neurosis" in laboratory animals can be established by placing the animals in a situation in which their behavior produces no effect on the occurrence of aversive stimuli (Liddell, 1956; Mowrer & Viek, 1958).

Several theories of depression take into account the role of powerlessness. Beck (1967) proposed a cognitive theory of depression that suggested emotional reactions of depression are the effect rather than the cause of perceptions of powerlessness. More recently, Seligman (1975) and Miller, Rosellini, and Seligman (1977) described depression as learned helplessness. These authors suggested that stress-related anxiety becomes depression when the individual begins to believe that he has no control over the stressful situation. Alienation is offered as a cause for egotistic suicide, according to Durkheim's (1897) sociological theory. The theory suggests that victims of egotistic suicide felt cut off from others and were unable to influence various social supports in their behalf. McClelland, David, Kalin, and Warner (1972) evaluated Thematic Apperception Test stories of alcoholics and linked alcoholism with a need for power. This position argued that small amounts of alcohol elicit thoughts of social power and large amounts induce thoughts of personal power.

Certain sexual deviations and sexual inadequacy have been related to a lowered sense of control over events.

Mohr, Turner, and Jerry (1964) argued that the pedophilic drive may result from a sense of having failed in the adult world--socially, professionally, and sexually. Masters and Johnson (1966) suggested that a frequent cause of male sexual inadequacy, especially impotence and premature ejaculation, is a fear about performance and the concern that one will be unable to exercise necessary control over one's sexual functioning.

Etiologic studies of the double-bind situation (Bateson, 1960) and the "schizophrenogenic mother" in schizophrenia indicated that through some process in the individual's interaction with his parents, he develops a sense of futility and inability to influence the behavior of other people. Finally, the research of Bettelheim (1967) concerning autistic children suggested that the negative feelings of rejecting parents lead the child to believe that his own behavior has little or no effect on the responses of his parents, and that he cannot influence the world. Thus, it appears that psychopathology of a wide variety is somehow related to powerlessness and lack of control. It is the perception of powerlessness, rather than actual lack of control, that is the critical variable in all of these studies. As a result of an experiment designed to test the relevance of no-control versus perceived no-control in an anxiety-provoking situation, Geer, Davison, and Gatchel (1970) concluded that "perhaps the next best thing to being master

of one's fate is being deluded into thinking that he is" (pp. 737-738).

Control and adolescent antisocial behavior. The concepts of alienation, powerlessness, and inability to exercise control over the forces in one's life have been cited numerous times by sociologists, criminologists, and commentators of the American scene when discussing the problems of adolescent antisocial behavior.

Seeman (1959), in a review of the historical development of the alienation concept in sociology and psychology, suggested that alienation is a result of one's inability to influence and manipulate the environment to meet one's needs. In a later statement, Seeman (1963) referred to powerlessness as "the individual's low expectancy that his own behavior can determine the occurrence of the goals or rewards he seeks" (p. 270). While Seeman pointed out that powerlessness and alienation can be operationalized in terms of externality, as defined by Rotter (1954), it is probably better understood in terms of low controllability as described by Barroso (1974). As he suggested, attributions to external forces of control do not necessarily imply a lack of control over these forces. According to Barroso, it is possible to manipulate and exert influence over forces that lie outside one's self. For example, one may attribute certain negative outcomes to personal or impersonal external sources, such as malevolent others or unfortunate environmental circumstances, and at the same



time maintain a sense of control over these forces. Thus, low controllability, as measured by the Control Scale, appears to be a more useful operational definition for these concepts.

Others have discussed the relationship between lack of control and various forms of antisocial behavior occurring in adolescents. Slavson (1965) reported that difficulties in mastering the environment led to a belief in loss of control or a "doom motif," which characterized delinquent boys. Jessor (1962) found that alienation was a better predictor of delinquent acts than aggressive motivation or traits of hostility. Using a measure of expectancy of success for achieving valued goals, he reported that adolescents who had a low expectancy of success and believed that what they did would not matter were more likely to become delinquent than were those with a higher expectancy of success but who were measured as having a high degree of aggressiveness or hostility.

Matza (1964) proposed that, perhaps in an attempt to compensate for the inability to experience real or meaningful control over the environment, there is a distinctive celebration of prowess which marks the spirit of delinquent youth. Matza suggested that this exercise in prowess allows the delinquent to partake of society's rewards without having to fulfill the established, yet perceived to be unattainable, requirements for those rewards. Toby (1973) concluded his summary of adolescent crime statistics by explaining that

delinquent adolescents "feel like a poverty-stricken and powerless minority, and how they feel has consequences for how they behave" (p. 256).

Gold (1963) argued that social class and delinquency vary independently as long as the adolescent experiences personal failures in adolescent endeavors and expects to experience occupational failure as an adult. Jaffe (1963) found that the child's feeling of powerlessness is a crucial variable in his developing antisocial behavior as an adult. According to Liu and Fahey (1963), the sense of powerlessness of the antisocial adolescent is further enhanced, perhaps permanently, once the label of delinquent has been firmly attached. Elliott (1962) reported a similar finding. He suggested that powerlessness and alienation are just as often an effect of antisocial behavior as they are a cause.

The few attempts that have been undertaken to empirically link powerlessness to adolescent antisocial behavior have not been entirely successful. Levenson (1975) attempted to determine whether a multidimensional measure of control might clarify previous finds (LeBlanc & Tolor, 1972; Lefcourt & Ladwig, 1966) which indicated that adult prisoners did not differ from controls on locus of control measures. Lefcourt and Ladwig conducted a study on powerlessness among reformatory inmates and found that, although black inmates perceived more powerlessness than a white norm group, white inmates did not differ from the norm group. This finding caused Lefcourt

and Ladwig to speculate that race or socioeconomic variables, rather than the prisoner role, may determine the degree of powerlessness one perceives.

LeBlanc and Tolor (1972), using the Rotter I-E scale, did not find significant differences between inmates and controls on the locus of control dimension, but did find differences between the two groups on a measure of alienation. LeBlanc and Tolor, however, did not control for length of time spent in prison, a variable that Levenson (1975) found to be crucial in determining increased externality scores among an inmate group. Although Levenson was not attempting to distinguish between inmate and noninmate groups with the multidimensional locus of control instrument that she had previously developed, she did suggest that "prisoners do not lose their feelings of personal control," but instead hold beliefs that "they are subject to the demands of powerful others" (p. 346). Levenson found that this phenomenon increased with prolonged institutionalization. Therefore, there remains the task of using an appropriate perception-of-control instrument to test the hypothesis that antisocial groups differ from nonantisocial groups in their sense of powerlessness and lack of control. There remains also the task of putting this test to antisocial adolescents.

Antecedents of control and antisocial behavior. The processes that underlie the development of specific control orientations are presumably related to particular parent

child relationships (Crandall et al., 1965; Davis & Phares, 1969; Rotter, 1966). Rotter (1966) noted that little research had been done relating directly to the problem of antecedents. He observed that prior studies had offered hypotheses, but the investigations had been indirect. For example, Cromwell (1963) used inferential measures of locus of control, and Crandall et al. (1965) only reported developmental trends in locus of control belief systems--noting that the specific orientations appeared to be fairly well established by about the age of seven or eight. Chance (1965) obtained data directly from parents concerning their relationships with their children and used yet another measure of locus of control.

Since 1966 several other studies of parental antecedents have been conducted using the Rotter I-E scale (Davis & Phares, 1969; MacDonald, 1971; Reimanis, 1971; Yates et al., 1975). Still others have employed locus of control scales peculiar to their own needs (Levenson, 1973; Katkovsky, Crandall, & Good, 1967; Nowicki & Segal, 1974).

While many studies have attempted to sort out the relationships between internal and external control and antecedent parental practices, other researchers, such as Baumrind (1966, 1971), Becker (1964), Hoffman (1960), and Schaefer (1959), have indicated that specific parental practices generate a sense of powerlessness in children. Baumrind (1966, 1971) divided parental styles into three

categories: authoritarian, permissive, and authoritative. These three basic methods of socializing children render different competencies in the child. He described the authoritarian parent as one who "attempts to shape, control, and evaluate the behavior and attitudes of the child in accordance with a set standard of conduct, theologically motivated and formulated by a higher authority" (p. 890). The authoritarian parent values authority and obedience. The effect is generally to restrict the child's autonomy and self-will.

The permissive parent represents, according to Baumrind, the polar opposite of the authoritarian parent. Permissive parents are said to be nonpunitive and accepting of the child's impulses and desires. Few demands are placed on the child by the permissive parent, and the child is left to regulate his own activities. The pattern of the permissive parent is often one of neglect or laissez-faire.

Baumrind describes the authoritative parent as a rational, issue-oriented director of the child's activities. There is much verbal give-and-take between parent and child, and the child is provided with explanations of policy decisions concerning the child.

The long-term effects of the first two parental styles on the socialization and personality development of the child are in many ways identical. Children who are always told what to do, without clear explanations as to reasons,

are likely to be unable to develop generalized schemas with which to exercise independent and autonomous control over their environment. Similarly, children of permissive parents are not given the opportunity to learn appropriate prosocial behaviors and self-control. As a result, the child deprived of a structure from which to internalize appropriate limit-setting guidelines will find that he does not possess the framework for effective autonomous functioning. Insecurity and weak mechanisms of self-control result, which in turn result in a sense of powerlessness. The key distinction between authoritarian and permissive styles on the one hand and the authoritative style on the other hand is that the former lack elements of principled discipline coupled with nurturance.

Hoffman (1970, 1975) described two types of parental antecedents that lead to different moral internalizations in the child. Inductive discipline techniques, which provide the child with a rational base for determining what consequences his behavior has on others, will lead generally to an orientation characterized by independence of external sanctions and an internalized awareness of self-control over his own moral standards. Discipline techniques that have high power-assertive components, such as physical punishment and deprivation of privileges, lead to a moral orientation determined by others who are potentially punishing agents. The child thus perceives that others, not he himself, are in control of the standards of conduct.

Work by Schaefer (1959) and later by Schaefer and Bayley (1963) and Becker (1964) provided a two-dimensional model to describe various parental behaviors. Practices such as acceptance, neglect, protectiveness, indulgence, democratic discipline, detachment, rejection, authoritarianism, dictatorial discipline, and a demanding orientation were arranged on a love-hostility dimension and control-autonomy dimension. The love-hostility dimension distinguished child-rearing practices based on the amount of love shown the child. The control-autonomy dimension distinguished child-rearing practices based on the degree to which parents restrict and control their children's behavior versus the degree to which the child is given autonomy to direct his own behavior.

Brophy (1977) summarized the relationships found between the two dimensions described by Schaefer and characteristics found in children. Although neither powerlessness nor alienation is mentioned in the Brophy summary, there are indications that a lack of love on the part of the parent when coupled with either extreme control or extreme autonomy are related to powerlessness. Such behaviors as insecurity, inhibition, low self-esteem, feelings of worthlessness, and delinquency are frequent consequences.

Findings regarding the effects of the various practices described by Baumrind (1966), Hoffman (1960), and Schaefer (1959) indicate that combinations of either extreme control or extreme autonomy tend to generate a sense of powerlessness

in the child. This is particularly true when these styles are accompanied by power-assertive discipline without explanation and an absence of love or nurturance.

Matza (1964) stated that powerlessness becomes delinquency when the adolescent attempts once again to regain control over his environment. Failing in conventional means of seizing control, the delinquent exhibits excesses of conspicuous consumption and episodes of exploitive aggression. It would therefore be expected that adolescent anti-social behavior and powerlessness may have similar roots. Not surprisingly, the parental styles hypothesized to create powerlessness are the same ones that have been proposed as antecedents of antisocial behavior in adolescents.

Glueck and Glueck (1950) found that physical punishment had been a frequently used discipline technique in the childhood of delinquents. These authors also found that principled discipline or reasoning and associated explanations had occurred more frequently in the nondelinquent group. A similar finding was reported by Bandura and Walters (1959) in distinguishing between aggressive and nonaggressive children. Authoritative types of discipline, such as instrumental companionship where supervision and help is given when needed, were found to be related to less hostility in boys (McCord et al., 1961) and nondelinquency in both boys and girls (Glueck & Glueck, 1950).

Schaefer and Bayley (1963) found that restrictiveness or control by parents correlated positively with defiance



and hostility in adolescent girls. These investigators also found that physical punishment or deprivation of privileges was related to discontent and turbulence in adolescent girls. It has been reported that physical punishment and hostility by the parent tend to induce aggressive activity in teenage children (Eron, Walder, Tiogo, & Lefkowitz, 1963; Kagan & Freeman, 1963).

Becker (1964) found that affective punishment or withdrawal of love correlated with nonaggression but high guilt reactions. Bronfenbrenner (1962) offered advice consistent with the Baumrind (1966) position. He recommended that to foster nonaggressive behaviors when their child becomes an adolescent, parents should strive for optimal levels of nurturance, love, and power--and to be flexible rather than rigid in making rules.

Even though the consistency in the literature between hypothesized antecedents of powerlessness and those of anti-social behavior in adolescents is notable, instruments designed to directly measure each of these various antecedents are unavailable. However, the MacDonald Perceived Parenting Questionnaire (1971) provides independent retrospective measures of nine disciplinary practices identical or similar to those described. This instrument has previously been used in locus of control research (Levenson, 1973; MacDonald, 1971) and is well suited to the purposes of the present study.

The Perceived Parenting Questionnaire independently measures the following parent-practice variables:

nurturance--the degree to which the parent was seen as comforting, helpful, and supportive;

instrumental companionship--the degree to which the parent was seen as providing help or assistance when needed;

principled discipline--perception of the parent as one who explained the reason for behavioral demands or punishments;

protectiveness--the degree to which the parent was seen as controlling or limiting;

predictability of standards--the degree to which the child perceives the parent as having set consistent and predictable rules of behavior;

physical punishment--perception of the parent as one who delivered physical punishment;

achievement pressure--perception of the parent as one who exerted overt pressure to excel, succeed, or compete;

deprivation of privileges--perception of the parent as one who punished by taking away privileges;

affective punishment--perception of the parent as one who controlled by guilt evocation, scolding, or withdrawal of love or attention.

The nurturance scale of the Perceived Parenting Questionnaire measures perceived parental warmth. This variable is similar to the love dimension described by Schaefer (1959) and is often cited as a necessary parental prerequisite for well-adjusted, prosocial behavior in adolescence. Bronfenbrenner (1962) argued for a positive mixture of nurturance and power in child-rearing.

The instrumental companionship scale measures parental guidance and assistance. These variables are described by Baumrind (1966) as the type of behaviors that typify the authoritative parent. The principled discipline scale measures styles of discipline that are said to be rational, flexible, and logical. Baumrind (1966, 1975) described the authoritative parent as one who explains policy and shares the reasoning behind his/her decisions about discipline. Hoffman (1975) described inductive disciplinary techniques as those which provide the child with cognitive understanding of the ramifications of his actions. Glueck and Glueck (1950) found that principled discipline was associated with non-delinquent groups, and McCord et al. (1961) reported that explanation given with discipline was related to less hostility in boys.

The protectiveness scale measures parental control and setting of limits. Baumrind (1966) reported that the authoritarian parent is one who controls, shapes, and restricts the child. Schaefer (1959) pointed out that extremely

restrictive, controlling parents allow their children little freedom to make decisions or take actions on their own. Schaefer and Bayley (1963) found a positive correlation between control-oriented parents and defiant and hostile adolescent girls. The predictability of standards scale measures perceived consistency of parental standards of behavior. This style would seem to enhance the child's autonomy through knowledge of a standard set of rules and cues in his environment by which he can guide his actions. The parental behaviors implied by this scale are therefore characteristic of the authoritative parent.

The physical punishment scale measures a perceived style of discipline characterized by physical punishment. Hoffman (1960) described power-assertive styles of discipline as those which use physical punishment without principled discipline. Baumrind (1966) pointed out that physical punishment is used by both authoritative and authoritarian parents. Glueck and Glueck (1950) found that physical discipline was a frequent practice among the parents of delinquents. Schaefer and Bayley (1963) found a relationship between the use of physical punishment and acting out behaviors in adolescent girls. Eron et al. (1963) also argued that the use of physical punishment is likely to lead to aggression in adolescents.

The achievement pressure scale measures the extent to which parents are perceived to exert demands and pressures

on the child to achieve. The authoritative parent was described by Baumrind (1966) as exerting achievement demands on the child. Bandura and Walters (1959) and McCord et al. (1961) found that parental demands for achievement were correlated with less hostile and less aggressive children.

The deprivation of privileges scale measures the degree to which the parent is perceived as using deprivation of goods or privileges as a disciplinary technique. As with physical punishment, deprivation of privileges is found to be related to both authoritarian and authoritative styles of discipline (Baumrind, 1966). Hoffman (1960) included deprivation of privileges as a method of power-assertive discipline but again only if it is used without explanation. There is little evidence to suggest that deprivation of privileges leads to either prosocial or antisocial behavior.

The affective punishment scale measures the perceived use of love withdrawal, or guilt evocation by the parents as a discipline technique. Withdrawal of love as a disciplinary technique implies that love is given when there is compliance. Schaefer's (1959) position was that a loss of love must be a permanent situation rather than a contingent event in order for the negative effects of hostility or loss of love to accrue. Becker (1964) found that overt aggression was negatively correlated with withdrawal of love.

The Contingency and Predictability of Parental Discipline Questionnaire was developed to provide additional data

about the antecedents of perceived lack of control and anti-social behavior in adolescents. Seligman (1975) and Miller et al. (1977) discussed "learned helplessness" as a state in which the organism is not in control of the consequences of his behavior and experiences a sense of powerlessness. These authors, as well as Seligman (1968) and Seligman, Maier, and Solomon (1971), argued that both predictability and control of outcomes result from a kind of dual-learning. Seligman (1968) reported that predictability of outcomes is based on a classical conditioning model. He noted that predictability of outcomes requires that both predictors for the occurrence of reinforcement and predictors for the absence of reinforcement be known. In this case, the organism comes to learn the conditional probabilities of reinforcement when predictors are present and when they are absent. When these two probabilities are equal, the reinforcement is unpredictable, that is, reinforcers occur with equal probability whether the predictors for the reinforcement are present or absent.

Similarly, Seligman et al. (1971) and Miller et al. (1977) noted that an organism's degree of control over outcomes depends upon the likelihood of reinforcement following a response and the likelihood of reinforcement when the response is not made. When the conditional probability of reinforcement following a response is equal to the probability in the absence of the response, the reinforcement is said to be noncontingent and the organism thus exercises no control over its occurrence.

It is important therefore to measure the conjoint probabilities of reinforcement both when predictors for reinforcement are present and when they are absent in the case of predictability of reinforcement, and to measure the probabilities of reinforcement both in the presence and absence of the response in the case of contingency of reinforcement. Rotter (1966) predicted that perceived noncontingent and unpredictable reinforcement is a precursor of external locus of control orientations. The perceived contingency and predictability of parental reinforcements were measured with the Contingency and Predictability of Parental Discipline Questionnaire on four scales. These scales independently measured the respondent's retrospective perceptions of parental contingent-noncontingent punishment, contingent-noncontingent reward, predictable-unpredictable punishment, and predictable-unpredictable reward. The contingent-noncontingent punishment and reward scales include items describing instrumental conditioning situations, whereas the predictable-unpredictable punishment and reward scales include items describing classical conditioning situations.

The contingent-noncontingent and predictable-unpredictable reward scales both measure the child's perception of consistent and predictable parental rewards. Noncontingent reward has operational similarities to unconditional positive regard as described by Rogers (1951), and would be expected to facilitate the autonomy of the child. Unpredictable reward,

however, would seemingly set up conditions wherein the reinforcing value of reward events would be diminished. This situation is similar to that described by Seeman (1959), which leads to feelings of powerlessness.

The contingent-noncontingent punishment scale measures the extent to which the parent's punishments are perceived to be contingent on the child's behavior. Yates et al. (1975) found that contingent punishment was related to internality as measured by the Rotter I-E scale. Seligman et al. (1971) maintained that contingent punishment did not tend to create powerlessness or "learned helplessness" in laboratory animals, whereas noncontingent punishment did. Giving consistent consequences for behavior is a characteristic of the authoritative parent according to Baumrind (1966) and this behavior characteristic was found in the parents of the least hostile children in the McCord et al. (1961) study.

The predictable-unpredictable punishment scale measures the degree to which the child perceives his parent's punishment to be correlated with obvious cues in his environment. Seligman (1968) noted that unpredictable aversive stimulation produced what he called "chronic fear" in laboratory animals, and he found that these animals ceased trying to control the onset of the shock. Again this circumstance appears to be similar to that of powerlessness described by Seeman (1959).

The foregoing discussion suggests that the antecedents of powerlessness should be similar to those that lead to



adolescent antisocial behavior. In this sense, powerlessness or a perception of lack of control over the environment may act as a cognitive mediator between certain disciplinary styles and the resulting antisocial behavior in adolescents.

### Hypotheses

The present study will test the general hypothesis that cognitive control orientations, experienced as powerlessness or lack of control, are generated as a result of specific parental styles and these orientations lead to antisocial behavior in adolescents. The following specific hypotheses are offered regarding the nature of the relationships between perceived parental behaviors, control orientations, and antisocial behavior.

1. Antisocial adolescents experience less perception of control, i.e., have more attributions to luck and more uncertainty of attributions, than do nonantisocial adolescents.

2. Perceived parental nurturance correlates positively with high controllability scores and nonantisocial adolescents perceive their parents as having been more nurturant than do antisocial adolescents.

3. Perceived instrumental companionship correlates positively with controllability and nonantisocial adolescents perceive their parents as exercising more instrumental companionship than do antisocial adolescents.

4. Principled discipline scores are positively related to controllability and nonantisocial adolescents perceive

their parents as exercising more principled discipline than do antisocial adolescents.

5. Protectiveness is negatively correlated with controllability and nonantisocial adolescents describe their parents as less protective than do antisocial adolescents.

6. Predictability of standards correlates positively with controllability and nonantisocial adolescents see their parents as having more predictable standards than do antisocial adolescents.

7. Physical punishment is neither positively nor negatively correlated with controllability and nonantisocial adolescents report less physical punishment from their parents than do antisocial adolescents.

8. Achievement pressure is positively correlated with controllability and nonantisocial adolescents report more achievement pressure from their parents than do antisocial adolescents.

9. Deprivation of privileges is neither positively nor negatively related to controllability and this variable does not distinguish between prosocial and antisocial adolescents.

10. Affective punishment is neither positively nor negatively related to controllability and nonantisocial adolescents perceive having experienced more affective punishment from their parents than do antisocial adolescents.

11. Controllability is positively correlated with contingent punishment practices and nonantisocial adolescents

view their parents as having been more contingently punishing than do antisocial adolescents.

12. Predictable punishment scores are positively correlated with controllability and nonantisocial adolescents report punishment from their parents to have been more predictable than do antisocial adolescents.

13. Contingent and predictable reward scores are positively related to controllability and nonantisocial adolescents perceive their parents as rewarding them less contingently and more predictably than do antisocial adolescents.

14. The last hypothesis predicts the following relationships between the variables measured by the Perceived Parenting Questionnaire and the Contingency and Predictability of Parental Discipline Questionnaire variables. Nurturance is negatively correlated with contingent reward and predictable reward; instrumental companionship and achievement pressure is positively correlated with contingent reward; principled discipline and predictability of standards is positively correlated with contingent punishment; and protectiveness is negatively correlated with contingent punishment. The variables of physical discipline, deprivation of privileges, and affective punishment have no significant correlation with any of the Contingency and Predictability of Parental Discipline variables.

## Method

### Subjects

Subjects were 120 male and female adolescents ranging in age from 13 years 9 months to 15 years 9 months (mean age, 15 years 4 months). Half of the subjects, 30 males (mean age, 15 years 7 months) and 30 females (mean age, 15 years 5 months), comprised the antisocial group. The remaining subjects, 30 males (mean age, 15 years 6 months) and 30 females (mean age 14 years 11 months), constituted the non-antisocial group.

Antisocial adolescents were randomly selected from individuals detained at a large detention center located in a metropolitan area of north central Texas. To control for the effects of institutionalization, only those adolescents who had never before been admitted to any residential institution were selected. Antisocial subjects were also identified by type of crime. Identification of type of crime was based on the most serious crime of which the subject had been accused. These offenses were classified as status crimes ( $N = 10$ ), crimes against property ( $N = 40$ ), or crimes against people ( $N = 10$ ). Status crimes are acts that would not be illegal if committed by an adult, such as running away from home and truancy. Victimless misdemeanor crimes, such as possession of small amounts of marijuana, were classified as status crimes. Victimless felonies, such as illegal distribution of narcotics, were classified as property crimes.

Nonantisocial adolescents were selected from students in English classes at a rural community high school located in north central Texas. English is a required course for all students at this high school, thus the sample fairly represented the total high school population. Students were included in the sample on the basis of reported school conduct. Students who had been suspended from school, had been sent to either the principal's or counselor's office for acting-out behaviors--fighting, overt disrespect for teacher or staff member, or destruction of property--or had been given more than three discipline reports for minor infractions of school rules over the past school year were excluded. Students were also excluded if they reported having any previous contact with juvenile authorities or the police for antisocial behavior outside of school.

Groups were matched for race, socioeconomic class, and type of home by means of proportional cluster sampling. Demographic data allowed for the distribution of subjects who were white ( $N = 103$ ) versus nonwhite ( $N = 17$ ), from lower ( $N = 22$ ) versus middle ( $N = 98$ ) socioeconomic classes, and from broken ( $N = 55$ ) versus unbroken ( $N = 65$ ) homes. Socioeconomic class distinctions were based on occupational and educational classifications provided by the U. S. Bureau of Census (1972). Subjects were considered to come from an unbroken home only if they lived their entire life with both natural parents. All others were classified as subjects

from broken homes. Only adolescents with two parents or parent substitutes were included in the sample.

### Instruments

The Barroso Control Scale. Barroso (1974, 1976) has hypothesized that the construct of control is a multidimensional one. Two major dimensions are postulated: internality and controllability. The first dimension, internality ( $\bar{I}$ ), is like Rotter's internal-external dimension in that it measures the direction of control and distinguishes between individuals who perceive that they themselves possess attributes that exercise control over their reinforcements (I+) and those who attribute control over their reinforcements to external sources (I-). Barroso, however, made a further distinction along the internality dimension. In this model, internal control and external control operate as independent dimensions. Perhaps her most important contribution to the concept of control lies in her discussion of a second major dimension, controllability. Controllability can be defined as the degree of control one perceives he exercises over either internal or external forces. Barroso found through factor analysis that an attribution to luck factor does not necessarily reflect an external control orientation. Barroso pointed out that it is possible to see oneself as either a "lucky" or an "unlucky" person, indicating that some people may construe luck as a variable factor that is internal or that acts from the outside, as in the case of "luck was with

me." Whether seen as a trait or as a changing external force, attributions to luck seem to connote a lack of control over reinforcements. Barroso concluded that individuals who make attributions to luck are in a sense expressing a belief in little control over outcomes. A measurement of attributions to luck then provides an indication of the amount of control one perceives he has over any control factor, be it internal or external. Certainly controllability is a dimension with significant relevance for various human situations. Attributions to either internal or external control factors, rather than to luck, will make a difference in terms of what one does to increase the probability of favorable outcomes. However, if an individual perceives that luck significantly interacts with any of these various factors, he may conclude that personal attempts to influence these forces may be in vain. Perceived low controllability could lead to inaction or resignation, whereas a perception of high personal control would theoretically lead to active attempts to exercise control over these forces.

Barroso introduced one final dimension which she suggested contributes significantly to one's perception of control. It is conceivable that there are those unable to make any attribution at all--individuals who, because of lack of knowledge or a belief in an incomprehensible world, cannot say to which forces that control over reinforcers should be attributed. This is a dimension of uncertainty

or nonattribution. Controllability and uncertainty are related but distinct dimensions. Attributions to luck may imply low control over one's reinforcements, but, at least, there is an attribution to something. A person may be quite certain that luck rules his life. On the other hand, one who is uncertain about control forces cannot say for sure whether it is luck or something else. Such a person may be thought of as seeing his world as chaotic. To these individuals, reinforcements occur or do not occur on a rather random basis because of unknown factors. Thus their attempts to influence reinforcements should be fairly nonexistent, since the target of influence is not known.

The Control Scale was developed to provide a measure of these separate dimensions of control (Barroso, 1974). Seven scores are generated, one for each of the control dimensions --internal ability, internal effort, external impersonal forces, external personal forces, controllability, and uncertainty--and one for general internality. Scores are obtained from ratings on 24 items, each of which describes a situation. Each item asks the subject to imagine that the situation has happened to him or her and then to rate six reasons that explain why the situation happened the way it did on a 5-point scale of importance. Response alternatives range from "extremely unimportant" to "extremely important."

Several distinctive features of the Control Scale are relevant to the research history of locus of control. The



first is the distinction that the Control Scale provides between attributions to positive and to negative outcomes. Barroso argued that a different attribution process may operate for successful outcomes than operates in the case of unsuccessful outcomes. It has been demonstrated that attributions following success differ from attributions following failure (Frieze & Weiner, 1971; Kun & Weiner, 1973; McMahan, 1973). Half of the Control Scale items describe situations with positive outcomes and the other half describe situations with negative outcomes. It is, therefore, possible not only to obtain measures provided by the seven independent control dimensions but also to analyze perception of control as it is related to outcome.

Previous research on locus of control has focused on attributions after success or failure on experimental tasks. Barroso (1974) notes that achievement motivation research is equally applicable not only to task accomplishment but also to affiliative and power-seeking behavior in a variety of contexts. Thus, items of the Control Scale are distributed equally over situations that include school and work achievement, and dyadic and group interpersonal relations in order to sample a wide variety of "real-life" circumstances.

Fourteen separate scores are obtained from each subject --one score on each of the seven control dimensions for positive outcomes, one score for each dimension for negative outcomes. The two internality scores are derived by computing

the sum of ability and effort scores minus the sum of impersonal external and personal external scores for both positive and negative outcome situations. Coefficient alpha for the Control Scale indicates good internal reliability for this instrument ( $r = .72$ ).

The Control Scale was modified for subjects having low reading and comprehension skills. The language of the original Control Scale is quite advanced and subjects in the present study were expected to have great difficulty understanding the scale's items. Furthermore, the original scale described situations considered to have little relevance to the lives of the antisocial subjects. Such situations as those describing advancement in a professional career might have been perceived to be so unlikely that attribution responses could possibly have been contaminated.

Item changes were of two types. First, the language was simplified. Second, the situation descriptions were revised so as to be relevant to the adolescent groups of this study. For example, an item that described "advancement in a professional career" was modified to describe "promotion at work." All revisions were those of language and not of content or meaning. Internal consistency coefficients of the various Control Scale variables were estimated by alpha coefficients (Guilford, 1954) and are presented in Table 1.

Table 1  
Coefficient alpha Internal Consistency Estimates  
for 12 Control Scale Measures

Control Scale Measure	Situation Outcome	
	Positive	Negative
Ability	.80 (.72) <sup>a</sup>	.75 (.73)
Effort	.85 (.74)	.83 (.81)
Impersonal Others	.68 (.62)	.69 (.59)
Personal Others	.77 (.65)	.73 (.62)
Luck	.89 (.85)	.88 (.75)
Uncertainty	.88 (.77)	.79 (.77)

Note: N = 120.

<sup>a</sup>Numbers in parentheses are coefficient alphas for Barroso's original Control Scale.

These subscales are quite reliable and compare favorably with the estimates of internal consistency obtained on the original scale. The median coefficient alpha for positive outcome subscales is .83 and for negative outcome subscales is .77. The modified Control Scale has a median overall alpha coefficient of .80 as compared with a .72 alpha on the original scale. The modified Control Scale is included as Appendix A.

The Perceived Parenting Questionnaire. The Perceived Parenting Questionnaire consists of 21 items measuring nine independent parent practice variables. Scores on eight of

the variables are obtained from two items each. A ninth variable, affective punishment, is scored from five items. Subjects choose one of five response alternatives, ranging from "never" to "almost always" on most of the items. Where appropriate, the five response choices vary from "never" to "very often," or from "never" to "almost every day," depending on content of the item. Subjects obtained a single score on each of the nine variables.

Devereux et al. (1969) found that the original version of the Perceived Parenting Questionnaire provided accurate measurements of actual parental behaviors when direct observations of their behaviors were compared with the children's responses on the Perceived Parenting Questionnaire. Regarding validity of children's reports of parental behavior vis-a-vis the parents' reports of their own behavior, Devereux et al. reported that children's perceptions of their parents' behavior are less likely to be skewed in the direction of socially acceptable responses than are the parents' perceptions of their own behaviors. Lefcourt (1972) also found that children's perceptions of their parents' behaviors are more closely related to the child's locus of control scores than are direct measures of the parents' attitudes. Spearman-Brown estimates of internal consistency on the nine Perceived Parenting Questionnaire variables range from .50 on predictability of standards to .82 on principled discipline. Both a mother form and a father form was administered (see Appendix B).

The Contingency and Predictability of Parental Discipline Questionnaire. The Contingency and Predictability of Parental Discipline Questionnaire consists of 32 items with four items each measuring eight different dimensions. The eight dimensions--contingent punishment, noncontingent punishment, contingent reward, noncontingent reward, predictable punishment, unpredictable punishment, predictable reward, and unpredictable reward--yield four scores--a contingent-noncontingent punishment score, a contingent-noncontingent reward score, a predictable-unpredictable punishment score, and a predictable-unpredictable reward score. Both a mother form and a father form with identical content were constructed for this study (see Appendix C).

The format of the items follows that suggested by Seligman et al. (1971), wherein conjoint probabilities of reinforcement are considered on each item. Thus, all of the contingency-noncontingency items require responses that take into account the conjoint probability of reinforcement following the occurrence of a given response and the probability of reinforcement in the absence of the response. Similarly, the predictability-unpredictability items require responses based on the conjoint consideration of the probability of reinforcement when the cues occur and the probability of reinforcement when the cues do not occur. Internal consistency coefficients estimated by coefficient alpha are presented in Table 2 and indicate moderate internal reliability

on the four subscales. Median coefficient alpha for the total scale is .54.

Table 2

Coefficient alpha Internal Consistency Estimates for  
Eight Contingency and Predictability of Parental  
Discipline Questionnaire Measures

Parental Discipline Measure	Form	
	Mother Form <sup>a</sup>	Father Form <sup>b</sup>
Contingent Reward	.61	.62
Contingent Punishment	.55	.56
Predictable Reward	.45	.30
Predictable Punishment	.53	.34

$${}^a N = 119$$

$${}^b N = 115$$

Subjects were asked to respond by choosing one of five response alternatives--very true, sort of true, neither true nor untrue, sort of untrue, and very untrue--for each item. Scores from 1 to 5 were given for each item, and scores for noncontingent (unpredictable) items were reversed from the scores on the contingent (predictable) items. Thus an individual's score on each of the four scales could range from 8 to 40.

Demographic data questionnaire. A short demographic data questionnaire was completed by each subject. The two

forms of this questionnaire (one for the antisocial adolescent group, a second for the nonantisocial adolescent group) requested information regarding sex, race, age, socioeconomic class, type of home, school conduct, institutionalization, and, in the case of antisocial adolescents, type of crime (Appendix D).

### Procedure

The high school students obtained parental permission to participate in the testing before being administered any test. All subjects were tested in several small groups. All three instruments and the demographic data questionnaire were administered at the same sitting in the following order: the Control Scale, the Perceived Parenting Questionnaire--Mother Form, the Perceived Parenting Questionnaire--Father Form, the Contingency and Predictability of Parental Discipline Questionnaire--Mother Form, the Contingency and Predictability of Parental Discipline Questionnaire--Father Form, and the demographic data sheet. All subjects were given a brief orientation to the project by the examiner. The information provided also included a brief statement about the purpose and scope of the research and assurances about anonymity and confidentiality.

Instructions for each instrument were provided in written form and read aloud to the subjects. Subjects who could not read were excluded from the analysis. Participants who requested such were provided with a written summary of the research results.

## Results

### Preliminary Analysis

The effect of race, socioeconomic class, and home type on the dependent variables was analyzed with a multivariate analysis of variance. There were no significant main effects or interactions. A similar multivariate analysis of variance was performed on the antisocial group data with the addition of the type-of-crime variable. Main effects and interactions again were nonsignificant.

### Females

The general hypothesis that parental discipline styles are related to certain cognitive control orientations and these in turn determine prosocial vs. antisocial behavior was supported among female subjects. This finding was derived by way of several analyses. The relationship between parental styles and subsequent behavior of children was analyzed with a one-way multivariate analysis of variance on the parental discipline variables. An overall group effect was obtained,  $F(26, 28) = 2.60$ ,  $p = .0075$ . The effects of the control scale variables were then removed with a stepwise multiple regression, and another one-way multivariate analysis of variance on the residual parental discipline variables was computed. The overall group effect disappeared,  $F(26, 28) = 0.94$ ,  $p = .5605$ . Thus the distinction between antisocial and nonantisocial females due to the child-rearing practices of their parents exist only because of the



relationship of these practices to the adolescent's cognitive control orientation.

The hypothesis that antisocial females experience less perception of control than nonantisocial females was not supported. There were no significant differences between the groups of females on the variables measuring attribution to luck or uncertainty of attributions. There was, however, an overall group effect for all Control Scale variables,  $F(12, 47) = 2.32, p = .0199$ . One-way analyses of variance on each Control Scale variable revealed significant group differences on attributions to one's own ability for positive outcome events,  $F(1, 58) = 5.35, p = .0243$ ; attributions to impersonal others for positive outcome events,  $F(1, 58) = 14.61, p = .0003$ ; and attributions to personal others for both positive,  $F(1, 58) = 9.25, p = .0035$ , and negative,  $F(1, 58) = 4.97, p = .0296$ , outcome events. In each case the nonantisocial group scored higher than the antisocial group. The mean scores on the 14 Control Scale variables for females are presented in Table 3.

Hypotheses 2 through 13 examine the effect of parental practice variables on subsequent prosocial and antisocial behavior. The means of each of these 26 variables for antisocial and nonantisocial females are presented in Table 4. These hypotheses also predict the relationship between parental styles and the two Control Scale controllability variables, attribution to luck and uncertainty of attribution.

Table 3  
 Mean Scores on 14 Control Scale Measures for Females

Control Scale Measures	Group	
	Antisocial	Nonantisocial
Ability, Positive	47.4333	51.2667*
Ability, Negative	41.7333	44.7667
Effort, Positive	50.1000	53.0000
Effort, Negative	47.5667	49.2667
Impersonal Others, Positive	39.1000	45.3000***
Impersonal Others, Negative	42.0333	44.8333
Personal Others, Positive	45.3000	49.9667**
Personal Others, Negative	42.5000	46.2000*
Luck, Positive	32.3000	34.3667
Luck, Negative	28.6000	31.4667
Uncertainty, Positive	33.4667	34.1667
Uncertainty, Negative	38.0000	39.0000
Internality, Positive	13.1333	9.0000
Internality, Negative	4.7667	3.0000

Note: Asterisks indicate significant Duncan's Multiple Range tests between means.

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

Table 4

Mean Scores on 26 Parental Practice Measures, Females

Parental Practice Measure	Group	
	Antisocial	Nonantisocial
<u>Mother</u>		
Nurturance	6.1600	6.1000
Instrumental Companionship	7.1200	7.5667
Principled Discipline	6.2000	7.2667
Protectiveness	7.1200	6.4333
Predictability of Standards	7.8000	7.8000
Physical Punishment	5.2400	3.4667***
Achievement Pressure	7.0800	6.0333
Deprivation of Privileges	4.9200	3.5333**
Affective Punishment	16.9600	13.4667**
Contingent Reward	23.4000	21.1667
Contingent Punishment	27.3600	29.9667
Predictable Reward	22.6400	21.0667
Predictable Punishment	25.2800	28.4000*
<u>Father</u>		
Nurturance	5.8000	5.4333
Instrumental Companionship	6.6800	7.1667
Principled Discipline	6.9200	7.6333
Protectiveness	6.5200	5.7000
Predictability of Standards	8.0000	7.7667
Physical Punishment	3.9600	3.5000

Table 4 (Continued)

Parental Practice Measure	Group	
	Antisocial	Nonantisocial
Achievement Pressure	7.7200	6.0667**
Deprivation of Privileges	4.3600	3.3667*
Affective Punishment	14.3200	11.9000*
Contingent Reward	21.8000	20.9667
Contingent Punishment	28.2800	29.6333
Predictable Reward	23.0000	22.3333
Predictable Punishment	24.0400	27.1000*

Note: Asterisks indicate significant Duncan's Multiple Range tests between means.

\* $\underline{p}$  < .05.

\*\* $\underline{p}$  < .01.

\*\*\* $\underline{p}$  < .001.

The Pearson's  $\underline{r}$  values depicting these relationships are presented in Table 5.

The hypothesis that nurturance is positively correlated with high perceived control in females was not supported. In fact, maternal nurturance was found to have a low positive correlation with attributions to luck on positive outcomes ( $\underline{r}$  = .26,  $\underline{p}$  < .05) and on negative outcomes ( $\underline{r}$  = .32,  $\underline{p}$  < .05). Paternal nurturance of females positively correlated with attributions to luck on negative outcomes ( $\underline{r}$  = .39,  $\underline{p}$  < .01)

and with uncertainty of attributions on positive outcome situations ( $r = .36, p < .01$ ). There were no group differences obtained for either maternal or paternal nurturance to support the hypothesis that nonsocial females perceive their parents as more nurturant than antisocial females.

Table 5

Pearson's  $r$  Between 26 Parental Practice Measures and Perception of Control Measures for Females

Parental Practice Measures	Perception of Control Measures			
	LP	LN	UP	UN
<u>Mother</u>				
Nurturance	.26*	.29*	.26*	.33**
Instrumental Companionship	.25	.33**	.32**	.13
Principled Discipline	.04	.09	.24	.25
Protectiveness	.30*	.24	.30	.17
Predictability of Standards	.05	.05	.21	.31**
Physical Punishment	-.27*	-.28*	-.18	-.18
Achievement Pressure	.07	.14	.23	.18
Deprivation of Privileges	-.01	.01	-.11	-.07
Affective Punishment	.02	-.05	-.21	-.14
Contingent Reward	-.03	-.05	-.07	-.15
Contingent Punishment	.01	.03	-.01	.18
Predictable Reward	-.15	-.17	-.25	-.25
Predictable Punishment	.01	-.02	.08	.31**

Table 5 (Continued)

Parental Practice Measures	Perception of Control Measures			
	LP	LN	UP	UN
<u>Father</u>				
Nurturance	.19	.39**	.36**	.22
Instrumental Companionship	.05	.16	.21	.16
Principled Discipline	.03	.12	.25	.10
Protectiveness	.20	.25	.20	.12
Predictability of Standards	-.18	-.25	-.01	.06
Physical Punishment	-.09	-.05	-.12	-.24
Achievement Pressure	-.13	-.08	.15	.20
Deprivation of Privileges	.02	.15	.07	-.08
Affective Punishment	-.07	-.01	-.17	-.08
Contingent Reward	-.02	-.03	.04	.10
Contingent Punishment	-.28*	-.16	-.11	-.07
Predictable Reward	.03	-.10	.06	.01
Predictable Punishment	-.08	-.04	-.04	-.01

Note: LP = attributions to luck in positive outcome situations; LN = attributions to luck in negative outcome situations; UP = uncertainty of attributions in positive outcome situations; UN = uncertainty of attributions in negative outcome situations.

\* $p < .05$ .

\*\* $p < .01$ .

Hypotheses 3, 4, and 6, which state that parental styles of instrumental companionship, principled discipline,

and predictability of standards are positively related to perceived control were also not supported. Maternal instrumental companionship was related to the control variables in the direction opposite that predicted,  $\underline{r} = .33$ ,  $\underline{p} < .01$ , on attributions to luck for negative outcome situations and  $\underline{r} = .32$ ,  $\underline{p} < .05$ , on uncertainty of attribution for positive outcome situations. Maternal predictability of standards was also related to the control variables in the direction opposite that predicted,  $\underline{r} = .31$ ,  $\underline{p} < .01$ , for uncertainty of attributions in negative outcome situations. Group effects were not significant for any of these three variables.

Hypothesis 5 states that nonantisocial adolescents perceive their parents as less protective than do antisocial adolescents and that a negative relationship exists between perception of control and parental protectiveness. This hypothesis was partially supported. While parental protectiveness does not distinguish between antisocial and nonantisocial females, there is a positive correlation between protectiveness from the mother and the female adolescent's attributions to luck ( $\underline{r} = .30$ ,  $\underline{p} < .05$ ) and uncertainty of attributions ( $\underline{r} = .31$ ,  $\underline{p} < .05$ ) in positive outcome situations.

Hypothesis 7 predicted that nonantisocial adolescents perceive their parents as exercising less physical punishment than do antisocial adolescents. The data support this hypothesis for mothers of females,  $\underline{F} (1, 53) = 16.23$ ,

$\underline{p} = .0002$ , but not for fathers. Although this hypothesis makes no prediction as to the nature of the relationship between physical punishment and perception of control, physical punishment from mothers was found to be negatively related to females' attributions to luck in positive outcome situations,  $\underline{r} = -.27$ ,  $\underline{p} < .05$ ; and negative outcome situations,  $\underline{r} = -.28$ ,  $\underline{p} < .05$ .

Support of hypothesis 8 was not found. Contrary to prediction, fathers of antisocial females are perceived to exert more pressure to achieve than fathers of nonantisocial females,  $\underline{F} (1, 53) = 7.35$ ,  $\underline{p} = .0090$ . Hypothesis 9 states that there is no difference between antisocial and nonantisocial adolescents on perceived deprivation of privileges. Hypothesis 10 states that nonantisocial females believe more than antisocial females that their parents exercised affective punishment. These hypotheses are not supported by the data. Mothers of antisocial females are perceived to use more deprivation of privileges,  $\underline{F} (1, 53) = 7.26$ ,  $\underline{p} = .0094$ ; and more affective punishment,  $\underline{F} (1, 53) = 11.13$ ,  $\underline{p} = .0016$ ; than mothers of nonantisocial females. Similarly, fathers of antisocial females use more deprivation of privileges,  $\underline{F} (1, 53) = 4.55$ ,  $\underline{p} = .0376$ , and affective punishment,  $\underline{F} (1, 53) = 4.16$ ,  $\underline{p} = .0465$ , than fathers of nonantisocial females. The hypotheses regarding the relationship of deprivation of privileges and affective punishment with perception of control were confirmed in view of the fact that no



significant relationships between the two were found. The hypothesis that achievement pressure is positively correlated with controllability was not confirmed.

Hypotheses about the Contingency and Predictability of Parental Discipline Questionnaire were supported in only two cases. Both predictable punishment from the mother,  $F(1, 53) = 4.23$ ,  $p = .0447$ , and predictable punishment from the father,  $F(1, 53) = 6.61$ ,  $p = .0130$ , are conditions considered more characteristic of the parents of nonantisocial females. Contrary to hypothesis 11, contingent punishment from the father is positively related to attributions to luck in positive outcome situations,  $r = .28$ ,  $p < .05$ . A similar paradoxical finding exists where predictable punishment from the mother and uncertainty of attributions are positively related,  $r = .31$ ,  $p < .05$ .

Of the predictions stated in hypotheses concerning relationships between variables of the fourteen Perceived Parenting Questionnaire and the Contingency and Predictability of Parental Discipline Questionnaire, only two are partially supported. Nurturance is positively related to unpredictable reward but only in the maternal nurturance-paternal unpredictable reward condition,  $r = .38$ ,  $p < .01$ . Maternal principled discipline and maternal contingent punishment are positively related,  $r = .43$ ,  $p < .001$ , as are paternal principled discipline and paternal contingent punishment,  $r = .49$ ,  $p < .0001$ . One relationship between variables on these two scales is in the direction opposite

from that predicted. In opposition to the stated hypothesis, instrumental companionship is negatively related to contingent reward in the mother-mother condition,  $r = -.41$ ,  $p < .001$ ; the father-mother condition,  $r = -.29$ ,  $p < .05$ ; and the father-father condition,  $r = -.43$ ,  $p < .001$ . The remainder of the stated hypotheses were not supported.

### Males

The general hypothesis that control orientations serve as cognitive mediators between child-rearing styles, and subsequent behavior in adolescents could not be supported among the male subjects. There were no significant group effects due to parental style either before or after the effects of the Control Scale variables were removed. Hypothesis 1 was partially supported. The one-way multivariate analysis of variance yielded a significant overall group effect on the Control Scale variables,  $F(12, 47) = 3.26$ ,  $p = .0018$ ; and the controllability variable, uncertainty of attributions, significantly discriminated between groups,  $F(1, 58) = 4.94$ ,  $p = .0302$ . One-way analysis of variance on the remaining Control Scale variables revealed only attributions to impersonal others to be significant for both positive outcome,  $F(1, 58) = 6.37$ ,  $p = .0144$ , and negative outcome situations,  $F(1, 58) = 5.31$ ,  $p = .0248$ . Duncan's multiple range tests on these three variables revealed that antisocial males were more likely to be uncertain about their attributions, whereas the nonantisocial

adolescents tended more than the antisocial group to attribute outcomes to impersonal others. Means for all fourteen Control Scale variables are presented in Table 6.

Table 6  
Mean Scores on 14 Control Scale Measures, Males

Control Scale Measures	Group	
	Antisocial	Nonantisocial
Ability, Positive Outcome	48.4667	50.7333
Ability, Negative Outcome	43.1000	44.4667
Effort, Positive Outcome	51.2333	52.7667
Effort, Negative Outcome	46.9333	48.3000
Impersonal Others, Positive Outcome	41.4000	44.9333*
Impersonal Others, Negative Outcome	42.4000	46.4000*
Personal Others, Positive Outcome	47.7333	50.0667
Personal Others, Negative Outcome	44.1333	46.3000
Luck, Positive Outcome	32.5333	34.0000
Luck, Negative Outcome	31.4667	31.0333
Uncertainty, Positive Outcome	38.4333	33.4333*
Uncertainty, Negative Outcome	41.1667	37.8000
Internality, Positive Outcome	10.5667	8.5000
Internality, Negative Outcome	3.5000	0.0667

Note: Asterisks indicate significant Duncan's Multiple Range tests between means.

\* $p < .05$ .

With a nonsignificant overall group effect on the parental discipline variables, further analyses of group differences on these scores were disregarded. Thus hypotheses regarding differences between antisocial and nonantisocial males due to specific parental discipline styles were not supported. The correlations between these variables and the perception of control variables are presented in Table 7.

Table 7

Pearson's  $r$  Between 26 Parental Practice Measures and Perception of Control Measures for Males

Parental Practice Measures	Perception of Control Measures			
	LP	LN	UP	UN
<u>Mother</u>				
Nurturance	.17	.01	.20	.18
Instrumental Companionship	.06	.05	.23	.27*
Principled Discipline	.05	-.01	.08	.14
Protectiveness	.03	-.02	.29*	.29*
Predictability of Standards	-.21	-.35**	-.06	-.05
Physical Punishment	.09	.09	.18	.29*
Achievement Pressure	-.02	.04	.01	.16
Deprivation of Privileges	.24	.10	.18	.18
Affective Punishment	-.12	-.15	-.03	.10
Contingent Reward	-.06	-.09	-.06	-.02
Contingent Punishment	-.22	-.11	-.26*	-.14

Table 7 (Continued)

Parental Practice Measures	Perception of Control Measures			
	LP	LN	UP	UN
Predictable Reward	-.01	-.01	-.20	-.25
Predictable Punishment	-.14	-.13	-.15	-.14
<u>Father</u>				
Nurturance	.12	.06	.35**	.35**
Instrumental Companionship	.10	.11	.17	.17
Principled Discipline	.03	.01	.02	.08
Protectiveness	.02	-.04	.13	.10
Predictability of Standards	.05	.11	.07	.12
Physical Punishment	.03	.02	.07	.16
Achievement Pressure	.12	.11	.10	.05
Deprivation of Privileges	-.07	-.14	.12	.19
Affective Punishment	.02	-.08	.19	.24
Contingent Reward	-.24	-.20	-.20	-.15
Contingent Punishment	-.01	-.03	.09	.08
Predictable Reward	-.01	-.01	-.23	-.23
Predictable Punishment	.11	.07	.08	.02

Note: LP = attributions to luck in positive outcome situations; LN = attributions to luck in negative outcome situations; UP = uncertainty of attributions in positive outcome situations; UN = uncertainty of attributions in negative outcome situations.

\* $p < .05$ .

\*\* $p < .01$ .

With male subjects, as with the female subjects, paternal nurturance correlates positively with uncertainty of attributions in both positive outcome,  $r = .35$ ,  $p = .01$ , and negative outcome situations,  $r = .35$ ,  $p = .01$ ; this is contrary to prediction. The same is true for instrumental companionship. The data do not support the hypothesis that instrumental companionship is positively related to controllability. Maternal instrumental companionship and uncertainty of attributions in negative-outcome situations are significantly related,  $r = .27$ ,  $p < .05$ .

The data do not lend support to hypotheses 4 and 8, regarding the relationship of principled discipline and achievement pressure to perception of control. No significant relationships exist between these variables. Hypotheses 9 and 10 are lent support from the data by virtue of the fact that these hypotheses predicted no relationship between the variables of deprivation of privileges and affective punishment and the controllability variables; and none exists.

Hypothesis 5 is supported, in that protectiveness from mothers of male adolescents is positively related to uncertainty of attribution in both positive,  $r = .28$ ,  $p < .05$ , and negative outcome situations,  $r = .20$ ,  $p < .05$ . Hypotheses 6 and 7 are also supported as predictability of standards is negatively correlated with attributions to luck in negative outcome situations,  $r = -.35$ ,  $p < .01$ , and physical

punishment from the mother is positively related to uncertainty of attributions in negative outcome situations,  $r = .20$ ,  $p < .026$ . The predictable reward scale is negatively correlated with uncertainty of attributions in positive outcome events,  $r = -.26$ ,  $p < .042$ , and supports hypothesis 13.

Relationships between the two parent discipline questionnaires are predicted in hypothesis 14. Supported is the hypothesis that nurturance is negatively correlated with contingent reward. Nurturance from the mother and contingent reward from the mother are related negatively,  $r = -.27$ ,  $p < .05$ . Similarly, nurturance from father and mother is related negatively,  $r = -.32$ ,  $p < .05$ , to predictable reward by the mother. The hypothesis that principled discipline is positively related to contingent punishment is supported,  $r = .37$ ,  $p < .01$ , in the father-father condition. Also, in support of the hypothesis that predictability of standards is positively related to contingent punishment is data for the father-father condition,  $r = .44$ ,  $p < .001$ . No other hypotheses were supported; and one, that instrumental companionship is positively related to contingent reward, yields data contrary to the predicted direction,  $r = -.44$ ,  $p < .001$ , in the mother-mother condition.

### Discussion

#### Perception of Control as a Mediating Construct

Data from female adolescents supported the hypothesis that the effect of certain styles of parental discipline

on subsequent adolescent behavior is indirect and is mediated by the cognitive control orientation of the adolescent. Thus parental discipline is a determinant of female antisocial behavior only when the effects of perceived control are present. This finding suggests that the way parents interact with their female child has a bearing on the girl's perception of control over her environment and that this control orientation influences her behavior.

There are two possible explanations why group differences were not obtained among males before the influence of perception of control was removed. First, the males selected for the nonantisocial group may be behaviorally more similar to antisocial males than they are different. Despite attempts to select heterogeneous groups, it was difficult to find male high school students who had not exhibited at least some antisocial behavior. The selection criterion of no more than three discipline reports for nonantisocial male subjects may have been too liberal. Although reporting no discipline reports was the rule for female nonantisocial subjects, it was the exception among nonantisocial males. Most males in this group reported two to three discipline reports over the past year.

A second reason is that our culture may sanction different styles of discipline for boys and girls based on sex-role expectations (Bem, 1974). Aggressive, acting-out behaviors are expected of males but not of females in our culture.



Possibly parents foster aggressive behavior in boys and not in girls. Thus, parental behaviors that distinguish male antisocial adolescents from nonantisocial adolescents are less clear-cut than the parental behaviors that distinguish between antisocial and nonantisocial females. As a result, male antisocial and nonantisocial adolescents may be less distinguishable to begin with. Regardless of the reason why the difference between the male groups is not significant, the degree of difference that does exist becomes notably less after the effects of perception of control are removed.

#### Antisocial Behavior and Perception of Control

Antisocial females can be distinguished from nonantisocial females on the basis of their control orientations. However, the hypothesis that antisocial adolescents experience less control, that is, have more attributions to luck and more uncertainty of attributions, was not supported. The overall group effect due to control orientation results instead from group differences in their attributions to ability, impersonal, and personal others. On each of these variables, the nonantisocial group scored higher than the antisocial group. Attributions to one's own ability is, according to Barroso (1974), an attribution to an internal source. Thus, this study would appear to support the suggestions of previous researchers (LeBlanc & Tolor, 1972; Lefcourt & Ladwig, 1966; Levenson, 1975) that nonantisocial behavior is related to an internal locus of control. However, attributions

to impersonal and personal others are conceptually related to an external locus of control. Therefore, based on these results, nonantisocial females would be described as having more external control orientations than antisocial females. This finding does not support the position that nonantisocial behavior is marked by an internal locus of control. Nor is this finding consistent with the previous one regarding attributions to ability. Taken together, these results simultaneously support and refute the position that internal-ity and prosocial behavior are related. Two explanations seem plausible. First, this seeming inconsistency offers new support for the contention that locus of control or perception of control is a multidimensional construct. It is possible for individuals to simultaneously hold internal and external orientations regarding attributions of control. A factor-analytic study recently completed by Kendall, Finch, Little, Chirico, and Ollendick (1978) on locus of control in children and juvenile delinquents offered additional support that locus of control is a multidimensional construct.

A second explanation is that attributing control of outcomes to others in the environment does not necessarily imply a complete lack of control over these outcomes. The results of this study, at least, support this notion. Non-antisocial females attribute control of positive outcomes conjointly to their own abilities and to the good will of others.

The data from male subjects partially support the hypothesis that lack of control is a condition which distinguishes the antisocial from the nonantisocial adolescent. Antisocial males are more uncertain why good things happen to them than are nonantisocial males. High uncertainty of attribution is considered by Barroso (1974) to offer evidence that one does not perceive himself able to exercise control over his environment. This construct probably comes closest to reflecting what Seeman (1963), Matza (1964), Toby (1973), and Jaffe (1963) meant by powerlessness. Even though there were no group differences in attributions to luck or uncertainty of attributions in negative outcome situations, this finding suggests that powerlessness, at least minimally, characterizes antisocial males.

Similar to girls, nonantisocial males attribute outcomes to impersonal others more than antisocial males. Here again we find an external attribution characteristic of nonantisocial rather than antisocial adolescents. In general, then, it is possible to conclude that powerlessness or lack of control is a characteristic of antisocial males and that externality of attributions and powerlessness are not similar constructs. Thus the Control Scale appears to add a new dimension to the locus of control research, that of no control over the environment. Furthermore, these findings suggest that one can attribute control to external others without experiencing a sense of powerlessness. This is

consistent with Barroso's proposal that one may maintain a sense of control over one's environment while simultaneously acknowledging the control of others.

An interesting finding is that both nonantisocial males and females attribute control to others in their environment. This perhaps may be best explained as a deference to authority which antisocial adolescents do not experience. Perhaps it could be argued that the well-adjusted adolescent is one who recognizes the influence of powerful others yet is still able, as in the case of the nonantisocial female, to attribute some control over outcomes to one's own ability.

#### Antecedents of Control

The portions of hypotheses 2 through 13 which concern the antecedents of control were derived primarily from theories by Baumrind (1966), Hoffman (1960), and Schaefer (1959). Although there are many important distinctions in the theories of these three researchers, they all share a view that punishment must be moderate, nonarbitrary, rational, and accompanied by explanation and nurturance in order for the child to develop a sense of self-autonomy or control over his environment. The results of this study allow us to examine the separate elements of the formula above as they are measured by the two parental discipline questionnaires and to note their relationships to perception of control.

These theories predict a positive relationship between nurturance and controllability. A relationship in the

direction opposite that predicted was obtained from both male and female adolescents. In other words, nurturance from fathers and mothers of female adolescents and from fathers of male adolescents was found to be positively related to attributions to luck and uncertainty of attribution. This finding suggests that nurturance from parents leads to a low sense of personal control in adolescents. None of the authors advocates nurturance alone as a sufficient technique for creating an autonomous adolescent. Baumrind (1966), in fact, noted that permissive parents are those who are nurturant and nonpunitive. Nonrestrictive parental warmth does not provide the child with the standards necessary for constructing internalized self-controls. This finding then can best be explained as evidence in support of Baumrind's theory of the permissive parental style.

Contrary to prediction, instrumental companionship from mothers is positively related to uncertainty of attributions for both males and females and to attributions to luck for females. Here again it may be possible to view instrumental companionship as a technique more characteristic of the permissive parent than the authoritative parent. Rather than measuring structural guidance, this variable may be a measure of permissive and nondemanding assistance, a parental behavior that may foster dependency rather than autonomy in the child.

On the basis of theory, principled discipline should be expected to have a strong positive relationship with a sense

of control over the environment. However, no relationship exists between this variable and the perception of control measures. It is possible that the items which make up this variable are not sensitive enough to measure the important underlying construct. Many authors argue for the necessity of exercising principled discipline in order to develop an autonomous child. It is also possible that the effects of principled discipline or lack of it are not experienced in ways measured by the Control Scale variables.

Protectiveness from mothers of both male and female subjects relates in the anticipated way with perception of control. Evidence is provided that protective, rigid, and controlling parents do not allow their children the opportunities to make their own decisions and thus exercise control over their environment.

Predictability of standards from mothers is positively related to uncertainty of attributions in females and negatively related to attributions of luck in males, thus supporting this hypothesis in the case of male adolescents only. While this finding is opposite that predicted in the case of female adolescents, it is possible that, when exhibited by the mother, knowing what to expect from her may take the form of protective limit-setting. However, it is not possible to speculate on the validity of this explanation without further study.

Even though Baumrind (1966) noted that physical punishment is used by both authoritarian and authoritative parents, Hoffman (1960) reported that significant relationships exist between physical punishment and the power-assertive parent. Power assertion, according to Hoffman, is related to submissiveness to authority figures and aggressiveness towards subordinates. This style of interacting is not consistent with the autonomous, self-controlled individual described by Baumrind. In this study, physical punishment from the mothers was found to be negatively related to attributions to luck in females. In males, however, physical punishment from mothers was positively related to uncertainty of attributions. Physical punishment from the father is not related to perception of control in either male or female subjects. Thus the effect of physical punishment from mothers strengthens the female's sense of control but reduces the male's. In the case of females, the authoritative parent hypothesis is supported and in the case of males, the authoritarian parent hypothesis is supported. This finding will be discussed in more detail in the section on antecedents of antisocial behavior.

The hypothesis that achievement pressure is positively related to perception of control is not supported. Baumrind's position, that deprivation of privileges and affective punishment characterizes the behaviors of both the authoritarian and authoritative parent, is suggested by the findings

of this study. Neither a clear positive nor negative relationship exists between these two variables and perception of control. Thus it can be argued that authoritarian and authoritative parents exercise achievement pressure and deprivation of privileges with their children.

Of the eight Contingency and Predictability of Parental Discipline measures, only two are significantly related to perception of control. Mothers of males and fathers of females who exercise contingent punishment are more likely to rear children with a high sense of control over their environment. On the other hand, mothers who exercise predictable punishment are more likely to induce an uncertainty of attributions orientation in their daughters.

#### Antecedents of Antisocial Behavior

Only data from female subjects are treated in this section. The overall group effect for males on the parental discipline variables was not significant. Therefore, further analyses of these data were not undertaken.

Even though physical punishment from mothers was negatively related to low control orientations, it is positively related to antisocial behavior. Perhaps the most important statement that can be made here regarding this finding is that even though maternal physical punishment of females is related to a higher sense of controllability, it is also related to antisocial behavior. Therefore, it is probable that in the case of antisocial girls, low controllability



and antisocial behavior are not related. Thus the relationship between antisocial behavior and low controllability is not clear cut. In many instances of this study, in fact, these two phenomena appear to vary independently.

Achievement pressure, deprivation of privileges, and affective punishment from either mothers or fathers are not related to controllability but each is related to antisocial behavior. For each of these three parental discipline variables, antisocial females score higher than nonantisocial females. Here again is evidence that, for female adolescents at least, low controllability is not necessarily a component of antisocial behavior.

#### Intercorrelations of Parental Discipline Variables

The hypothesis that nurturance will be negatively related to contingent reward and to predictable reward is based on the premise that adolescents who view their parents as high on nurturance will perceive them to have provided nurturance on a noncontingent and unpredictable basis. These hypotheses were supported.

Principled discipline and predictability of standards were hypothesized to be positively related with contingent punishment. Both of these relationships were found to be significant. Principled discipline and predictability of standards were assumed to measure a punishment regime which is based on behaviors recognized by the child as deserving of punishment. In other words, the child who knows why he

is punished and knows what is expected of him will most likely receive punishment which is delivered on a contingent basis.

The hypothesis that instrumental companionship is positively related with contingent reward is not supported. These two variables are, in fact, negatively related. Although it was believed that instrumental companionship is a measure of contingent guidance, it is more likely that this variable measures noncontingent guidance. This position gains added support from the relationship between instrumental companionship and perception of control and was discussed earlier.

The relationship between achievement pressure and contingent reward was hypothesized to be positive. No relationship between these two variables exists. It may be that in some cases, the adolescent who reports achievement pressure from his parents perceives that he receives this pressure noncontingently.

#### Contingency and Predictability of Parental Discipline Questionnaire

The findings of this study regarding the usefulness of the Contingency and Predictability of Parental Discipline Questionnaire indicate that the instrument has both strengths and weaknesses. The data from the female adolescent group yield significant group differences in the predicted direction on two of the instrument's eight scales: maternal predictable punishment and paternal predictable punishment. These results are especially important because five of the

six scales that yield significant group differences on the Perceived Parenting Questionnaire are measures of various types of punishment. The finding that antisocial females exceed nonantisocial females in their perception of deprivation of privileges from mothers and fathers, affective punishment from mothers and fathers, and physical punishment from mothers suggests that perceived parental punishment is extremely important in discriminating both these two groups. These results suggest that antisocial females perceive their parents to be more punitive but less predictable in the application of their punishment than do the nonantisocial females. It can be concluded, therefore, that unpredictable punishment of various types is a primary antecedent of antisocial behavior in girls. The fact that no significant correlations were found between the measures of predictability of parental punishment and measures of the type of parental punishment indicates that these scales are measuring different phenomena. The Contingency and Predictability of Parental Discipline Questionnaire adds an important dimension to research on the antecedents of adolescent antisocial behavior and confirms in principle the work of Seligman and his associates (Miller et al., 1977; Seligman, 1968; Seligman et al., 1971) that predictability of punishment is a primary contributor to the development of powerlessness.

As was explained earlier, the failure of these scales to discriminate between antisocial males and nonantisocial

males may be more a function of the similarity of the two groups of males rather than of any limitations of the instrument. It is possible, however, that the power of the instrument is limited by the moderate internal consistency coefficients of the separate scales. Each scale may in fact measure more than one construct or, alternatively, inconsistent responses may have been elicited because the subjects did not fully understand the items. In order to measure the conjoint probabilities required by the instrumental and classical paradigms described by Seligman (1968) and Seligman et al. (1971), the language of the instrument may have been confusing to the subjects. Instead of attempting to compare, for example, the probability of reinforcement given a response and the probability of reinforcement without the response in one item, it may be possible to measure these probabilities in two separate items and then combine them arithmetically.

Predictable reward scales on the Contingency and Predictability of Parental Discipline Questionnaire did not discriminate between the two groups, nor did measures of contingent reward or contingent punishment. Perhaps reward, whether it occurs contingently or predictably, does not render the recipient powerless. Children may find it more disturbing to be unable to control punishment than reward. It may be argued that unpredictable and noncontingent reward

enhances feelings of mastery of control, even though it may not shape or maintain specific behaviors.

The scales measuring perceived contingent punishment from parents do not discriminate between the two groups. This finding is especially noteworthy because these scales correlate with the predictable punishment scale of the same-sex parent--mothers ( $r = .37$ ,  $p = .004$ ), fathers ( $r = .42$ ,  $p = .001$ ). Why the contingent punishment scales did not discriminate between groups is somewhat puzzling. One reason for the discrepancy may be that even though the two types of punishment scales are correlated, the correlations are low--thus suggesting the scales are measuring different phenomena to some degree. Future research must focus on the differential measurement of contingency and predictability measures.

#### Summary of Major Findings and Recommendations for Future Research

This study was designed with four major purposes in mind. The first was to determine if the Control Scale is a valid and useful instrument for the measurement of perception of control. The data presented here indicate that the Control Scale affords the researcher with a detailed analysis of internal and external orientations. Furthermore, this study supports the hypothesis that the perception of control construct is independent of attributions to either internal or external sources and should be considered separately when examining cognitive control orientations.

The second purpose of the study was to provide empirical support for the alienation and powerlessness hypotheses of adolescent antisocial behavior (Seeman, 1959, 1963). Although the Control Scale discriminated between antisocial and non-antisocial groups with both male and female subjects, only one of the four individual perception of control measures, uncertainty of attributions in positive outcome situations for male adolescents, yielded a significant group difference. However, the third purpose of the study, which was to examine the relationships between parental discipline styles and powerlessness, provided considerable data to support the proposition that powerlessness or alienation is related to a variety of child-rearing practices exhibited by parents of antisocial adolescents.

The study's fourth purpose was to develop a questionnaire to measure the conjoint probabilities of predictable and unpredictable reward and punishment, and the conjoint probabilities of contingent and noncontingent reward and punishment in order to determine if the occurrence of noncontingent and unpredictable reinforcements contribute to the development of powerlessness and antisocial behavior. Data from female adolescents confirmed that the paradigm described by Seligman and his associates (Miller et al., 1977; Seligman, 1968; Seligman et al., 1971) is relevant and useful to the study of antisocial behavior. Furthermore, the questionnaire, while in need of revision, appears to be

a useful addition to developmental research in general, and to research in "learned helplessness" in particular.

The major findings of the present study can be summarized as follows.

1. Cognitive control orientations in adolescents mediate the effects of parental style of antisocial behavior.

2. Locus of control is a multidimensional construct; specifically, internality and externality of attribution are independent dimensions and perception of control is independent of both of these.

3. Antisocial males are more uncertain about why things happen to them than are nonantisocial males and thus may be considered to experience less control over their environment. Nonantisocial males, on the other hand, attribute outcomes to the influence of impersonal others more than do antisocial males.

4. Prosocial behavior in females appears to be related to both internal attributions (attributions to ability) and external attributions (attributions to personal and impersonal others), implying that nonantisocial females not only believe their own ability influences outcomes, but also that others in their environment influence outcomes as well.

5. The higher attributions to external sources that are exhibited by nonantisocial adolescents may be explained as a deference to or respect for the authority and power of others which is not experienced by antisocial adolescents.

6. Parental discipline variables of nurturance from both mother and father, and instrumental companionship, protectiveness, and predictability of standards from mothers are related to lower perception of control in females and may be more characteristic of the permissive or authoritarian rather than the authoritative parent. On the other hand, physical punishment from mothers is related to higher perception of control, suggesting a relationship between physical punishment and increased control through aggression.

7. Unpredictable punishment in the form of deprivation of privileges from mother and father, affective punishment, physical punishment from mother, as well as achievement pressure from fathers, are characteristics of the parents of antisocial females.

8. Among male subjects, nurturance from fathers and instrumental companionship, protectiveness, and physical punishment from mothers are positively related to low perception of control. Predictability of standards from mothers is related to high perception of control.

9. Nurturance is negatively related to contingent reward and predictable reward and is thus probably seen by adolescents as a rather arbitrary form of support.

10. Both the modified Control Scale and the Contingency and Predictability of Parental Discipline Questionnaire were found to be useful instruments in examining the relationships between parental discipline styles, perception of control,



and antisocial behavior in adolescents, and should be considered for use in future research on these topics.

The following recommendations for future research are suggested. Careful regulation of control and experimental groups must be exercised, especially with male subjects, when conducting research on antisocial adolescents. Antisocial and nonantisocial males, in general, appear more similar to one another in critical ways such as general aggressiveness, acting-out behavior, and problems with authority figures, than are antisocial and nonantisocial females. The selection criteria for male control groups should be very rigorous.

Unfortunately there is little literature regarding the etiology and circumstances of female antisocial behavior. The results of this study demonstrate that the antecedents and components of female antisocial behavior differ in important ways from that of males. More research is necessary to ferret out the relevant issues regarding female antisocial adolescents. Based on the findings of this study, it is suggested that particular attention should be given to the relationships between parental punishment and female antisocial behavior with special focus on the role of physical punishment from the mother.

It is recommended that future research efforts regarding locus of control consider the multidimensionality of this construct and especially note the independent variability

of internal and external attributions. Further, it is recommended that continued efforts be made to construct a revised version of the Contingency and Predictability of Parental Discipline Questionnaire. This study has sufficiently indicated the potential and promise of such an instrument in helping move toward a better and more detailed understanding of the effects of parental discipline on subsequent behavior in children.

The results obtained here offer support to the proposition that certain parental behaviors are important antecedents for the development of antisocial behavior. Generally, the data suggest that unpredictable punishment of any type is a precursor of social acting-out. Two conclusions might be drawn from this finding. The first is that punishment, especially physical punishment, has a detrimental effect on the socialization of the child. The second is that punishment when applied should be anchored to some predictable cues in the environment. Arbitrary punishment applied without cues for its occurrence appears to generate a form of countercontrol which manifests itself in social acting-out.

This study also demonstrated that cognitive control orientations mediate the effects of parental discipline on female adolescent behavior. These mediating cognitive orientations are not, however, lack of control or powerlessness. Perception of control as measured here is not a construct which predicts antisocial behavior. Too often, perhaps,

there is a tendency to attach hypothetical constructs with negative connotations to deviant populations in an attempt to label and explain away their behavior. To say that antisocial adolescents feel powerless is to do just that. Based on the data, there is no support for the view that antisocial adolescents feel more powerless than nonantisocial adolescents. It is likely then, that antisocial behavior is simply an aggressive expression of perceived control.

The human organism apparently strives for control regardless of the social, legal, or psychological label it carries. It is recommended, therefore, that caution be exercised in applying the powerlessness label to any group. It might be helpful to restructure our approach to research on control. We might begin asking "how is control differently expressed by various groups?" rather than "who feels powerless?".

## Appendix A

## Modified Barroso Control Scale

Instructions for Part I

On the next few pages are some questions about why things happen to us. There are 24 different situations which could possibly happen to anybody. You should imagine that each situation actually happened to you. Underneath each situation are six reasons which explain why the situation happens the way it does. You are to first read the situation and what happens, pretending that it has happened to you. Then read the first reason below and decide how important this reason is in causing the situation. You can pick one of five choices. These choices will always be:

"extremely unimportant" (marked EU),  
 "very unimportant" (marked VU),  
 "important" (marked I),  
 "very important" (marked VI),  
 "extremely important" (marked EI).

Here is a sample situation with four reasons below it.

Sample Situation:

You studied a new subject in school and then took a test over it. You got a poor grade on the test. Imagine that this situation actually happened to you and that all four of the reasons below also really happened. How important is each reason in causing you to get a poor grade on the test?

- a. You had little ability on this subject.

EU VU I VI **EI**

- b. The teacher was unfair to you.

EU VU **I** VI EI

- c. Because of bad luck some questions you hadn't studied were on the test.

EU **VU** I VI EI

- d. You were not interested in the subject.

EU VU I VI **EI**

These items have already been marked by someone (let's call him John). For reason (a.), John circled EI, for extremely important. This means that John thinks that having little ability on the subject was extremely important in causing a bad grade. If John thought that ability had nothing at all to do with the grade he got on the test, he would have circled EU, extremely unimportant, instead.

On reason (b.), John circled I, for important. This means that John thinks that the teacher's unfairness was somewhat important, but neither too important or too unimportant.

For reason (c.), John circled VU. This means that John thinks that luck didn't cause the grade he got on the test, but that it could have been part of the cause. If he thought that luck had nothing at all to do with the test grade, he would have circled EU, and if he thought luck had everything to do with the grade, he would have circled EI.

Reason (d.) is circled EI. This means that John thinks being uninterested in a subject was an extremely important cause for getting a bad grade.

From this example you can see that if you think a reason is a really important cause of the situation, then circle either VI, if it is pretty important, or EI, if it is extremely important. But if you think a reason is not an important cause, circle VU, if it is of little importance, or EU, if it is an extremely unimportant cause. Circle I when you think a reason is neither very important nor unimportant.

### Things to Remember

1. There are no right or wrong answers. Everybody's answers are different.
2. Do not leave any reasons unmarked. Make a circle on every one of the six reasons for all 24 situations. It is OK for two or more reasons of a situation to be marked the same way.
3. Work at a steady pace. Do not think too long about any reason. Reread the situation if it helps you to decide how important a reason is.
4. Raise your hand if you have any doubts or want to ask a question.

If you have no questions, turn the page and begin with Situation 1.

Situation 1. Imagine that after working on a job for several years, you became very respected for your work. If all six reasons listed below really happened, how important was each one in causing you to become respected in your work?

1. Luck was with you.

EU VU I VI EI

2. Several things you didn't understand happened.

EU VU I VI EI

3. You were very good at this job.

EU VU I VI EI

4. You got a lot of support from your boss at work.

EU VU I VI EI

5. You worked hard at the job.

EU VU I VI EI

6. There were not many workers who were very good at this job.

EU VU I VI EI

Situation 2. You took a trip with your parents and had a very good time. Imagine that the events below happened and rate how important each one was in making the trip a good one.

7. A lot of minor happenings which were hard to understand occurred.

EU VU I VI EI

8. Your parents made an effort to have fun with you.

EU VU I VI EI

9. You were ready to have a good time no matter what happened.

EU VU I VI EI

10. You and your parents went to a very interesting place.

EU VU I VI EI

11. Because of good luck, many exciting things happened on the trip.

EU VU I VI EI

12. You did everything possible to make the trip fun.

EU VU I VI EI

Situation 3. Imagine that a girl moved to your school and became your very good friend. Supposing that everything listed below actually happened, how important was each one in building this friendship?

13. It was easy to form a friendship with her.

EU VU I VI EI

14. You became interested in the girl and gave her a lot of attention.

EU VU I VI EI

15. She liked your type.

EU VU I VI EI

16. It was easy for you to make friends with people like her.

EU VU I VI EI

17. Situations, very hard to figure out, happened.

EU VU I VI EI

18. Luck was responsible for the good relationship between you.

EU VU I VI EI

Situation 4. You have children, and they are now teenagers. Your relationship with them is becoming very difficult and problems between you are very common. Imagine that the reasons below really happened and rate their importance.

19. Because of lack of time, you did not give them much attention.

EU VU I VI EI

20. Life for your children is so different from the way it was when you grew up, it is hard for you to understand them.

EU VU I VI EI

21. You did not have many of the qualities necessary to be a good parent.

EU VU I VI EI

22. Your spouse (husband or wife) did not help much to make your relationship with your children a good one.

EU VU I VI EI

23. Many things hard to figure out occurred.

EU VU I VI EI

24. Because of bad luck there was no understanding between you and your children.

EU VU I VI EI

Situation 5. You worked for several years in a large company. You didn't get promoted as fast as you would have liked. Supposing that the reasons listed here actually happened, what would be the importance of each one in causing this result?

25. There were not many chances for promotions for people in jobs like yours.

EU VU I VI EI

26. You had bad luck.

EU VU I VI EI

27. Your boss didn't recognize your good work.

EU VU I VI EI

28. Things happened in a way which were difficult to understand.

EU VU I VI EI



29. You didn't have all the abilities necessary to do a good job at your work.

EU VU I VI EI

30. You didn't take much interest in your work.

EU VU I VI EI

Situation 6. At the end of the first year in high school, you saw that the teachers thought of you as a poor student. Supposing the following events to be true, what would have been their importance in causing the teachers to see you in this way?

31. Your classmates were better than you were.

EU VU I VI EI

32. You didn't study enough.

EU VU I VI EI

33. The teachers were not very understanding with you.

EU VU I VI EI

34. Because of bad luck you did not have a chance to show your good qualities.

EU VU I VI EI

35. The teachers did not care for any of the students.

EU VU I VI EI

36. It was hard to know that much about what happened.

EU VU I VI EI

Situation 7. You want to get a job in a foreign country, but you have not yet had a chance to learn the language of the new country. You have been trying to learn it for a long time, but so far you have not learned it well. Imagine that all of the events below have happened and rate how important each one has been in causing this to happen.

37. Learning the language was hurt by some things that you are not aware of.

EU VU I VI EI

38. It was hard to find a good textbook about the new language.

EU VU I VI EI

39. Your teacher did not give you special help when you needed it.

EU VU I VI EI

40. You were unlucky and ended up not learning what you needed.

EU VU I VI EI

41. You weren't very good at learning any foreign language.

EU VU I VI EI

42. You missed classes and didn't do much studying at home.

EU VU I VI EI

Situation 8. You took a very important test at school and got a very good score. Because of this, you did not have to take any more tests for the rest of the year. Imagine that the things listed below happened and rate how important each one was in causing your good test score.

43. You had good luck.

EU VU I VI EI

44. Most of the other students were not ready for the test.

EU VU I VI EI

45. You did your best in studying for the test.

EU VU I VI EI

46. Your parents and friends gave you support and encouragement.

EU VU I VI EI

47. You showed that you have ability.

EU VU I VI EI

48. Some things which you don't know about occurred.

EU VU I VI EI

Situation 9. You started to work right after getting out of school. At the end of a year you decided that things were working out well for you. Which things are important in explaining this?

49. Luck was on your side.

EU VU I VI EI

50. You were very dedicated to your work.

EU VU I VI EI

51. Friends and people you work with supported you.

EU VU I VI EI

52. Many things hard to understand happened.

EU VU I VI EI

53. You showed that you have a lot of ability.

EU VU I VI EI

54. Your job was easy for anyone who had gone to school before.

EU VU I VI EI

Situation 10. You moved to another city. A short time later you had already made many friends. Imagine that the things listed below have happened. How important was each one of the following things in making friends?

55. You knew someone who, right away, introduced you to an interesting group.

EU VU I VI EI

56. Most of the people in the city were open and friendly.

EU VU I VI EI

57. People found you interesting and pleasant.

EU VU I VI EI

58. You tried to be friendly.

EU VU I VI EI

59. You had luck in forming new friendships.

EU VU I VI EI

60. A lot of things which were hard to figure out happened.

EU VU I VI EI

Situation 11. You joined a club. After going to it for a long time, you were nominated for president of the club, but you lost the election. Imagine that each of the following things happened. How important was each of them in causing you to lose the election?

61. The other people running for club president were very popular.

EU VU I VI EI

62. You didn't try very hard to get votes.

EU VU I VI EI

63. You were not well-qualified to be club president.

EU VU I VI EI

64. Your friends didn't help you to get votes.

EU VU I VI EI

65. You were unlucky.

EU VU I VI EI

66. Things you could not figure out worked against you.

EU VU I VI EI

Situation 12. You and some friends planned to do something this weekend. You made a suggestion which seemed like fun, but no one went along with your idea. How important is each of the following things in causing the others to turn down your idea?

67. You couldn't think of enough reasons to convince them your idea was a good one.

EU VU I VI EI

68. Your friends were hard to make understand.

EU VU I VI EI

69. You didn't try very hard to convince them.

EU VU I VI EI

70. You had no idea why your idea was turned down.

EU VU I VI EI

71. Someone said your idea was a bad one.

EU VU I VI EI

72. Bad luck worked against you.

EU VU I VI EI

Situation 13. After you have been married for a long time your marriage continues to be very good. How important was each of the following in making this a good relationship?

73. Luck helped it.

EU VU I VI EI

74. You were always a good marriage partner and always full of affection.

EU VU I VI EI

75. You picked a good marriage partner and you always tried to have a perfect relationship.

EU VU I VI EI

76. Other people around you also had good marriages.

EU VU I VI EI

77. Your marriage partner stayed affectionate all through your marriage.

EU VU I VI EI

78. Many other things you couldn't figure out occurred at the time.

EU VU I VI EI

Situation 14. You are already 35 years old, and have been working on a job for several years, but you are not making much money. Suppose the following things are all true. How important would each one be in causing you to make a low salary?

79. In this kind of job it is hard to make much money.

EU VU I VI EI

80. You were a victim of bad luck.

EU VU I VI EI

81. You didn't try very hard at your work.

EU VU I VI EI

82. No one important ever helped you.

EU VU I VI EI

83. Things you could not figure out happened.

EU VU I VI EI

84. You were not very good at this job.

EU VU I VI EI

Situation 15. You had to study some new subjects and the teacher assigned a lot of reading to do in a week. You found it very hard and did not understand it. Imagine all of these reasons happened and rate their importance in causing you to not understand the reading.

85. You weren't very good at this type of subject.

EU VU I VI EI

86. You didn't put much effort into your reading.

EU VU I VI EI

87. The teacher didn't care about your problems with the reading and did not give you much help.

EU VU I VI EI

88. The reading was very difficult to understand.

EU VU I VI EI

89. Because of bad luck, you weren't at your best for studying.

EU VU I VI EI

90. Some things you weren't aware of happened.

EU VU I VI EI

✓ Situation 16. You moved to another city and transferred to the school nearest your house. You have been making very good grades since starting at the new school. How important are each of the following in causing you to get good grades?

91. You studied hard.

EU VU I VI EI

92. The teacher liked you.

EU VU I VI EI

93. It was easy for any student to get good grades.

EU VU I VI EI

94. You were lucky on your tests and assignments.

EU VU I VI EI

95. You had the ability to do the work without much difficulty.

EU VU I VI EI

96. Some things hard to figure out happened at school.

EU VU I VI EI

Situation 17. You have a friend whom you have known a long time and whom you like. However, you noticed lately that this friend is becoming unfriendly. Imagine that the events mentioned below are true. How important are each one in causing this person to become unfriendly? ✓

97. He was difficult to get along with because of the type person he was.

EU VU I VI EI

98. It is hard to keep a long friendship with a person you like.  
EU VU I VI EI
99. You weren't interested in keeping the friendship going.  
EU VU I VI EI
100. Someone else told your friend untrue and unkind stories about you.  
EU VU I VI EI
101. Because of bad luck the friendship didn't work out.  
EU VU I VI EI
102. Things hard to figure out happened.  
EU VU I VI EI

Situation 18. You wrote a report for school which was really very good. Imagine that the events listed below have happened. How important was each one in making your report good?

103. You thought a lot about the report and tried to write it very carefully.  
EU VU I VI EI
104. Someone talked with you about the report and gave you some very good suggestions.  
EU VU I VI EI
105. Many things you couldn't figure out happened.  
EU VU I VI EI
106. The report topic was very easy.  
EU VU I VI EI
107. You already knew the information needed for the report.  
EU VU I VI EI



108. You wrote the report during a time when almost everything worked out right for you.

EU VU I VI EI

Situation 19. You had a party at your house. A girl whom you had met recently and whom you liked very much didn't come. If the things below all happened, how important would each one be to cause the girl not to come to the party?

109. She didn't like you very much.

EU VU I VI EI

110. Because of luck something unexpected happened.

EU VU I VI EI

111. Things you couldn't know ahead of time influenced her decision.

EU VU I VI EI

112. You did not try very hard to get her to go to your house.

EU VU I VI EI

113. The girl was not very friendly.

EU VU I VI EI

114. You were not the kind of person she would want to go to a party for.

EU VU I VI EI

Situation 20. As a part of your job, you started a very important project. But after some time had passed, you saw that the project was not going along as well as you hoped it would. If the events below really happened, how important would each one be in causing the problem with the project?

115. The project was really very hard.

EU VU I VI EI

116. You didn't have much luck while you were working on the project.

EU VU I VI EI

117. You didn't learn all the skills necessary for the project to work out.  
EU VU I VI EI
118. Other things hard to figure out happened.  
EU VU I VI EI
119. You didn't give the project the care and attention it deserved.  
EU VU I VI EI
120. The other workers didn't help as much as you had hoped.  
EU VU I VI EI

Situation 21. You are one of a group of students trying to publish a school newspaper, and you end up as leader of the group. How important was each of the things listed below in causing you to become leader.

121. You could not know why things turned out the way they did.  
EU VU I VI EI
122. You knew how to get along with the other students.  
EU VU I VI EI
123. Luck helped you.  
EU VU I VI EI
124. You showed more dedication than the other students.  
EU VU I VI EI
125. The others didn't care very much about being the leader.  
EU VU I VI EI
126. A friend of yours helped you to become the leader.  
EU VU I VI EI

Situation 22. After finishing school you looked for work and got a good job. The things which caused this result are below. How important do you think each was in causing you to get a good job?

127. You had the abilities and other necessary qualifications to get the job.

EU VU I VI EI

128. You were lucky.

EU VU I VI EI

129. An important person helped you get the job.

EU VU I VI EI

130. There were a lot of good jobs available.

EU VU I VI EI

131. A lot of things which you couldn't figure out happened.

EU VU I VI EI

132. You tried hard to get the job.

EU VU I VI EI

Situation 23. You helped raise some money for a charity, but you were able to get only a small amount. How important was each of the events below in causing you to get only a small amount of money?

133. You were unlucky in your fund raising.

EU VU I VI EI

134. The people you asked were selfish.

EU VU I VI EI

135. You looked shy when trying to get other people to give money.

EU VU I VI EI

136. No one helped you raise money.

EU VU I VI EI

137. You didn't work at it very hard.

EU VU I VI EI

138. Very complicated things happened.

EU VU I VI EI

Situation 24. You decided to form a small band and got some other people interested in joining. The group has played together for quite a while and has been a lot of fun. Imagine that the following things happened. How important is each of these things in making your band a success?

139. The idea interested many people who like music.

EU VU I VI EI

140. You were able to share your excitement with your friends.

EU VU I VI EI

141. Your parents gave you the support you needed.

EU VU I VI EI

142. You did everything possible to make the idea work.

EU VU I VI EI

143. You were lucky in this project.

EU VU I VI EI

144. Things hard to understand turned out to help you.

EU VU I VI EI

## Appendix B

## Perceived Parenting Questionnaire

Instructions for Part II

This next part asks questions about your childhood with your parents and how they treated you. There are 21 statements about how mothers act toward their children, and 21 statements about how fathers act with their children. After each statement there are some choices about how often these things happened in your relationship with your mother or father. Circle the choice that best describes how often your mother or father was like the one in the statement. Think of their behavior as it was over most of your childhood.

Example

My mother let me do the things I wanted to do.

Never      Only once      Sometimes      Usually      Almost always  
                 in a while

If you think that your mother never let you do the things you wanted to do, then circle "Never."

If you think that your mother let you do what you wanted to do only once in a while, circle this answer.

If your mother let you do what you wanted to do about half the time, circle "Sometimes."

If your mother usually, but not always, let you do what you wanted to do, circle "Usually."

And finally, if your mother almost always let you do what you wanted to do, circle "Almost always."

Things to remember

1. There are no right or wrong answers. Every person remembers how their parents were in a different way.

2. Think about how your parents were over most of your childhood.

3. Circle one choice for every statement. Make sure that all statements have one circle.



10. She slapped me.
- |                  |                   |                    |                           |       |
|------------------|-------------------|--------------------|---------------------------|-------|
| Almost every day | About once a week | About once a month | Only once or twice a year | Never |
|------------------|-------------------|--------------------|---------------------------|-------|
11. If I did something she didn't like, she would act cold and unfriendly.
- |       |                      |           |         |               |
|-------|----------------------|-----------|---------|---------------|
| Never | Only once in a while | Sometimes | Usually | Almost always |
|-------|----------------------|-----------|---------|---------------|
12. She scolded and yelled at me.
- |                  |                   |                    |                           |       |
|------------------|-------------------|--------------------|---------------------------|-------|
| Almost every day | About once a week | About once a month | Only once or twice a year | Never |
|------------------|-------------------|--------------------|---------------------------|-------|
13. I knew what she expected of me and how she wanted me to behave.
- |       |                      |           |         |               |
|-------|----------------------|-----------|---------|---------------|
| Never | Only once in a while | Sometimes | Usually | Almost always |
|-------|----------------------|-----------|---------|---------------|
14. When I did something she didn't like, she acted hurt and disappointed.
- |       |                      |           |         |               |
|-------|----------------------|-----------|---------|---------------|
| Never | Only once in a while | Sometimes | Usually | Almost always |
|-------|----------------------|-----------|---------|---------------|
15. She wouldn't let me go places because something might happen to me.
- |       |                      |           |         |               |
|-------|----------------------|-----------|---------|---------------|
| Never | Only once in a while | Sometimes | Usually | Almost always |
|-------|----------------------|-----------|---------|---------------|
16. She helped me with my school work when I didn't understand something.
- |                  |                   |                    |                           |       |
|------------------|-------------------|--------------------|---------------------------|-------|
| Almost every day | About once a week | About once a month | Only once or twice a year | Never |
|------------------|-------------------|--------------------|---------------------------|-------|
17. She punished me by trying to make me feel guilty and ashamed.
- |       |                      |           |         |               |
|-------|----------------------|-----------|---------|---------------|
| Never | Only once in a while | Sometimes | Usually | Almost always |
|-------|----------------------|-----------|---------|---------------|
18. She insisted that I get very good grades in school.
- |            |       |           |                      |       |
|------------|-------|-----------|----------------------|-------|
| Very often | Often | Sometimes | Only once in a while | Never |
|------------|-------|-----------|----------------------|-------|

19. She comforted and helped me when I had trouble.

Almost always	Usually	Sometimes	Only once in a while	Never
------------------	---------	-----------	-------------------------	-------

20. She punished me by not letting me use my favorite things for a while.

Never	Only once or twice a year	About once a month	About once a week	Almost every day
-------	------------------------------	-----------------------	----------------------	---------------------

21. When she punished me, she explained why.

Almost always	Usually	Sometimes	Only once in a while	Never
------------------	---------	-----------	-------------------------	-------

(Subjects also completed a Father Form of the Perceived Parenting Questionnaire. The content was identical, with the word "father" substituted for "mother" and appropriate pronoun changes.)



## Appendix C

Parental Discipline Questionnaire

These questions ask about the way your parents punished and rewarded you. Try to remember how things were with your parents over most of your childhood. You should answer by circling either Very True, Sort of True, Neither True or Untrue, Sort of Untrue, or Very Untrue under each statement about your parents.

The first part is about how your mother rewarded and punished you. The second part is about your father's way of punishing and rewarding you.

Remember:

1. Circle only one answer for each statement. Make sure all of the statements have one circle.
2. There are no right or wrong answers. Everybody's parents were different. Each answer should be how you remember the way your mother and father acted toward you while you were growing up.



8. I was often punished by my mother regardless of what I had done.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
9. Whenever my mother was under a lot of pressure, she usually got upset with me, but she hardly ever got upset with me when she didn't feel pressured.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
10. When my mother was upset with my father, she got mad at me, but she didn't get mad at me as long as they were getting along OK.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
11. If I didn't treat my mother or father with respect, mother was sure to punish me, but she rarely punished me if I treated them respectfully.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
12. If things went well for my mother during the day, she was usually happy with me, but she was not happy with me when things didn't go well for her.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
13. When I got mad or threw a temper tantrum, I got into trouble with my mother, but, then, I frequently got into trouble with her when I hadn't gotten mad or thrown a temper tantrum.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
14. When my mother was rested, she acted happy with me, but she was almost never happy with me when she wasn't rested.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
15. When I broke her rules, mother almost always punished me, but she seldom punished me when I didn't break them.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|

16. My mother often got mad at me when she did not feel well, but if she was feeling OK, she hardly ever got mad at me.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
17. When my mother was very busy, she often got upset with me, but she got upset with me just as often even when she wasn't busy.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
18. When I did something special for my mother, she acted very loving, but when I hadn't done something special for her, she didn't act very loving.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
19. Usually there wasn't any clue to let me know when I was going to get into trouble with my mother.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
20. No matter what I had done, my mother often got mad at me.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
21. My mother often acted pleased with me when I was least expecting it.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
22. My mother was usually pleased with me if I offered to help her with something, but if I didn't offer to help her, she seldom showed that she was pleased with me.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
23. My mother got upset with me if I did poor work at school, but she rarely got upset if I hadn't done poor work at school.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|

24. My mother often punished me when I least expected it.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
25. The times my mother was happy with me often came as a surprise.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
26. Often there wasn't any clue to let me know when my mother was going to be happy with me.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
27. Whenever I did especially well at something, mother was very pleased, but when I didn't do especially well at something, mother seldom seemed very pleased with me.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
28. Mother usually punished me if I lied to her, but she rarely punished me if I hadn't lied to her.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
29. My mother always loved me regardless of what I had done.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
30. My mother acted pleased with me when I did extra work around the house, but she was seldom pleased with me when I hadn't done extra work around the house.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|
31. My mother usually was happy with me when I made good grades, but she was just as happy with me when I didn't make good grades.
- |           |                 |                           |                   |             |
|-----------|-----------------|---------------------------|-------------------|-------------|
| Very True | Sort of<br>True | Neither True<br>or Untrue | Sort of<br>Untrue | Very Untrue |
|-----------|-----------------|---------------------------|-------------------|-------------|

32. When I didn't obey my mother, I got into trouble with her, but, then, I frequently got into trouble with her even when I did obey her.

Very True	Sort of True	Neither True or Untrue	Sort of Untrue	Very Untrue
-----------	-----------------	---------------------------	-------------------	-------------

(Subjects also completed a Father Form of the Contingency and Predictability of Parental Discipline Questionnaire. The content was identical, with the word "father" substituted for "mother" and appropriate pronoun changes.)



- | (Page 2--Antisocial Group)       | <u>Male</u> | <u>Female</u> |
|----------------------------------|-------------|---------------|
| Completed a 2-yr. college degree | _____       | _____         |
| Completed a 4-yr. college degree | _____       | _____         |
| Completed a master's degree      | _____       | _____         |
| Completed a doctor's degree      | _____       | _____         |
8. At home, how many other people live with you?
- None 1 2 3 4 5 6 7 8 9 10 More than 10
9. At home, do you live in an apartment? a house? a trailer?
10. How many bedrooms are there at home? 1 2 3 4 5
11. How long have you been at the Detention Center?
- Number of days: 1 2 3 4 5 6 7
- more than 7 days  
more than 10 days  
more than 14 days  
more than 1 month  
more than 2 months
12. Date you came to the Detention Center this time: \_\_\_\_\_
13. Have you been in the Detention Center before this time?
- Yes No
- If you have been here before, how long were you in the last time? Number of days: \_\_\_\_\_
14. Have you lived at any state school or any other institution before (a hospital, half-way house, detention center, orphanage, etc.)?
- Yes No
- If yes, how long? Number of weeks: \_\_\_\_\_
15. What do they say you did that brought you to the Detention Center?
- |                   |           |         |
|-------------------|-----------|---------|
| Runaway           | Burglary  | Assault |
| Theft under \$200 | Truancy   | Other:  |
| Theft over \$200  | Car Theft | _____   |



(Page 2--Nonantisocial Group)	<u>Male</u>	<u>Female</u>
Completed a 2-yr. college degree	_____	_____
Completed a 4-yr. college degree	_____	_____
Completed a master's degree	_____	_____
Completed a doctor's degree	_____	_____
8. At home, how many other people live with you?		
None 1 2 3 4 5 6 7 8 9 10 More than 10		
9. At home, do you live in an apartment? a house? a trailer?		
10. How many bedrooms are there at home? 1 2 3 4 5		
11. Have you ever been suspended from school? Yes No		
How many times?		
Once Twice Three times More than three times		
If you have been suspended, how many times this year?		
Once Twice Three times More than three times		
12. Have you even been sent to the Principal's office, the Dean's office, or the Counselor's office for getting into trouble? Yes No		
How many times?		
Once Twice Three times More than three times		
How many times this school year?		
Once Twice Three times More than three times		
13. Have you even been given a discipline report for breaking a school rule or for getting into trouble? Yes No		
How many times?		
Once Twice Three times More than three times		
How many times this school year?		
Once Twice Three times More than three times		

(Nonantisocial Group--Page 3)

14. Have you ever had any contact with juvenile authorities or the police outside of school for breaking other than a traffic law?    Yes    No

How many times?

Once    Twice    Three times    More than three times

Appendix E

Table 8

Intercorrelations Between Control Scale Measures, Male and Female

	Positive Outcome Situations Attribution to						
	AP	EP	IP	PP	LP	UP	NP
Positive Outcome Situations							
Ability (AP)	----	.73***	.66***	.62***	-.06	-.04	.42***
Effort (EP)	.78***	----	.49***	.64***	.02	.01	.53***
Impersonal Others (IP)	.60***	.57***	----	.57***	.17	.18	-.23
Personal Others (PP)	.80***	.70***	.69***	----	.13	.11	-.15
Luck (LP)	.12	.01	.31*	.32**	----	.56***	-.24
Unknown Sources (UP)	.17	-.05	.20	.32**	.60***	----	-.24
Internality (NP)	.35**	.46***	-.37**	-.09	-.39**	-.31**	----
Negative Outcomes							
Ability (AN)	.75***	.62***	.69***	.70***	.26*	.32**	.03
Effort (EN)	.74***	.68***	.53***	.61***	-.13	.05	.27*
Impersonal Others (IN)	.67***	.54***	.64***	.60***	.32**	.26*	.01

Table 8 (Continued)

Positive Outcome Situations Attribution to							
	AP	EP	IP	PP	LP	UP	NP
Personal Others (PN)	.66***	.43***	.60***	.69***	.35**	.35**	-.13
Luck (LN)	-.03	-.24	.15	.11	.81***	.59***	-.41***
Unknown Sources (UN)	.16	-.03	.18	.24	.42***	.74***	-.23
Internality (NN)	.28*	.40**	.09	.13	-.44***	-.16	.37**

  

Negative Outcome Situations Attribution to							
	AN	EN	IN	PN	LN	UN	NN
Positive Outcome Situations							
Ability (AP)	.48***	.51***	.61***	.63***	-.05	.05	-.08
Effort (EP)	.58***	.63***	.62***	.48***	-.10	.06	.21
Impersonal Others (IP)	.45***	.35**	.60***	.46***	.09	.20	-.12
Personal Others (PP)	.66***	.64***	.66***	.73***	-.01	.18	.07
Luck (LP)	.32**	.12	.20	.11	.77***	.52***	.13
Unknown Sources (UP)	.34**	.12	.32**	.26*	.50***	.84***	-.05
Internality (NP)	.02	.17	.05	.01	-.18	-.18	.13

Table 8 (Continued)

		Negative Outcome Situations Attribution to						
		AN	EN	IN	PN	LN	UN	NN
Negative Outcome Situations								
Ability (AN)		----	.72***	.74***	.66***	.16	.43***	.41***
Effort (EN)		.74***	----	.70***	.62***	-.09	.21	.50***
Impersonal Others (IN)		.77***	.66***	----	.74***	.09	.40***	-.08
Personal Others (PN)		.78***	.56***	.66***	----	.11	.37**	-.20
Luck (LN)		.20	-.20	.22	.27*	----	.52***	-.10
Unknown Sources (UN)		.31*	.09	.25	.30*	.39**	----	-.05
Internality (NN)		.31*	.60***	-.04	-.15	-.41***	-.09	----

Note: Intercorrelations for male subjects found above the diagonal,

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

Table 9  
Intercorrelations Between Maternal Discipline  
Measures, Male and Female

	NT	IC	PD	PT	PS
Nurturance (NT)	----	.17	.43***	.26**	.18
Instrumental Companionship (IC)	.36**	----	.50***	.30*	.08
Principled Discipline (PD)	.21	.44***	----	.23	.39**
Protectiveness (PT)	.52***	.30*	.06	----	.13
Predictability of Standards (PS)	.20	.10	.39**	.15	----
Physical Punishment (PP)	.05	-.33**	-.44***	.04	.09
Achievement Pressure (AP)	.18	.25	.16	.43***	-.01
Deprivation of Privileges (DP)	.52***	.01	-.24	.23	-.18
Affective Punishment (AP)	.05	-.22	-.47***	.29*	-.09
Contingent Reward (CR)	-.14	-.41***	-.48***	.12	-.24
Contingent Punishment (CP)	.27*	.48***	.43***	.19	.16
Predictable Reward (PR)	-.01	-.33**	-.29*	.23	-.15
Predictable Punishment (PP)	.13	.26*	.40**	.26*	.14

Note: Intercorrelations for male subjects are found above the diagonal.

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

Table 9 (Continued)

PN	AP	DP	AF	CR	CP	PR	PP
.14	-.05	.69***	-.08	-.27*	.06	-.32**	.12
.10	.18	.04	-.04	-.44***	.08	-.34**	-.05
.05	.10	.21	-.23	-.33**	-.02	-.15	.04
.12	.07	.10	.07	-.10	.02	-.33**	.05
.09	-.07	.01	.05	-.03	.20	-.04	.17
-----	-.13	.31*	.47***	.07	-.07	.07	.07
.02	-----	.04	.02	-.03	.09	-.10	.10
.39**	-.10	-----	.27*	-.10	.14	-.20	-.06
.39**	.19	.36**	-----	.36**	.12	.02	.04
.44***	.12	.30*	.48***	-----	-.07	.30*	-.10
-.37**	.06	.03	-.29*	-.43***	-----	-.34**	.24
.24	-.03	.34**	.44***	.49***	-.25	-----	-.03
-.39**	.04	-.11	-.10	-.27*	.37**	-.05	-----

Table 10  
Intercorrelations Between Paternal Discipline  
Measures, Male and Female

	NT	IC	PD	PT	PS
Nurturance (NT)	----	.32**	.38**	.21	.26*
Instrumental Companionship (IC)	.51***	----	.45***	.48***	.24
Principled Discipline (PD)	.55***	.67***	----	.29*	.42***
Protectiveness (PT)	.29*	.37**	.32**	----	.31**
Predictability of Standards (PS)	.21	.13	.36**	.10	----
Physical Punishment (PP)	-.05	-.01	-.04	-.03	.05
Achievement Pressure (AP)	.28*	.25	.13	.35**	.09
Deprivation of Privileges (DP)	.47***	-.03	-.17	.01	-.04
Affective Punishment (AP)	.02	-.27*	-.23	.16	.02
Contingent Reward (CR)	-.12	-.44***	-.46***	.01	-.22
Contingent Punishment (CP)	.06	.38**	.49***	.26	.24
Predictable Reward (PR)	-.23	-.40**	-.46***	-.27*	-.11
Predictable Punishment (PP)	.14	.28*	.31**	.19	.23

Note: Intercorrelations for male subjects are found above the diagonal.

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .



Table 10 (Continued)

PN	AP	DP	AF	CR	CP	PR	PP
-.04	.29*	.54***	.12	-.12	.32**	-.13	.09
-.09	.44***	.04	-.10	-.18	.33**	-.26*	.16
-.07	.13	-.08	-.13	-.22	.37**	-.03	.17
.14	.46***	.35**	.21	-.09	.27*	-.19	.22
.09	.19	-.01	.09	-.02	.44***	.03	.19
----	.03	.24	.59***	.38**	-.34**	.30*	-.28*
-.03	----	.16	.12	-.04	.15	.08	.11
.25	.15	----	.35**	.22	-.03	-.06	-.11
.37**	.01	.41***	----	.34**	-.15	.12	-.21
.15	.25	.38**	.41***	----	-.36**	.21	-.38**
-.12	.08	-.28*	-.16	-.51***	----	-.23	.36**
.10	.11	.20	.16	.60***	-.40**	----	.07
-.16	-.02	-.12	-.05	-.07	.42**	.05	----

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