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Parenting Styles and Adolescent Problem Behaviors: A Search for Moderating Variables

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Table of Contents

Abstract

A limitation with previous investigations of the relationship between adolescent problems and parenting is a lack of consideration of the influence of individual differences among children. The present study examined the importance of adolescent personality variables as moderators of the relationship between parenting styles and adolescent problem behaviors as recommended by Barber (1992). The participants were 449 elementary, secondary, and university students between the ages of 12 and 22 obtained from schools from the Lakehead Board of Education and students from two introductory psychology classes at Lakehead University. A 274-item questionnaire was administered to the students. The items measured five aspects of adolescent personality, internalizing and externalizing problems, and perceived parenting styles, including parental support, control, punishment styles, reasoning, involvement, and monitoring. The analyses indicated that personality variables sometimes do moderate the relationship between parenting styles and problem behaviors, although the moderated relationships were more common for males than for females.

Parenting Styles and Adolescent Problem Behaviors:

A Search for Moderating Variables

Numerous studies examining the relationship between parenting styles and adolescent psychopathology have yielded significant correlations. However, many of these relationships are modest in size and inconsistent (Rothbaum, 1986). Barber (1992) suggested that one reason is the lack of consideration of the role of individual personality characteristics and how these may moderate the relationship between parenting and adolescent behavior. The purpose of the present study was to examine the importance of personality variables as moderators of the relationship between parenting styles and adolescent problem behaviors.

Historical Development of the Dimensions of Parenting Styles

One of the first large-scale attempts at creating a nosology of parenting styles was Schaefer's (1959) factor analytic study of maternal behavior. Schaefer's work established a model of maternal behaviors represented in two-dimensional Cartesian space. These maternal parenting behaviors formed a circumplex arrangement around the two orthogonal factors love vs. hostility (parental support) and autonomy vs. control (parental control). Combinations of these two dimensions accounted for the correlations within his matrix of maternal behaviors. Schaefer's (1959) circumplex model of maternal behaviors also helped to summarize nearly two decades of research on parenting styles.

Becker (1964) generated a three-dimensional model that subdivided Schaefer's autonomy vs. control dimension into restrictiveness vs. permissiveness and anxious-emotional involvement vs. calm-detachment. More importantly, Becker explicitly identified the relationship between parenting styles and the behavior of children. For example, he found that restrictiveness correlated with behavioral inhibition in children, while permissiveness correlated with aggressiveness in children.

In a closely related line of research, Baumrind's (1967) tripartite conceptualization of child management techniques, which incorporated the dimensions of parental support and parental control, was the next attempt at better delineating parental child-rearing behaviors. She identified authoritative, authoritarian, and permissive styles. A brief description of each style is outlined in Table 1. It is evident that themes of parental support and control are pervasive in her descriptions. The role of parental discipline strategies in the socialization of children was also important in her theory.

The pioneering research of Schaefer (1959), Becker (1964), and Baumrind (1967) laid the groundwork for empirical investigations into the links between parenting styles and the behavior of children and adolescents. Subsequent studies have validated the importance of parental support and control as the two primary dimensions of parenting consistently found in empirical research. For example, Maccoby and Martin (1983), in their extensive review of the literature, demonstrated that parental support and control have become the preeminent factors in research on parenting styles. They noted that

although some of the studies in their review indicated that parental support and control failed to account for a large proportion of the variance, striking consistencies were observed across a wide range of research designs, methodologies, and statistical techniques. Maccoby and Martin (1983) also showed that four distinctive types of parenting styles could be derived from the quadrants formed by the two orthogonal factors, parental support and control (see Figure 1). They further noted that these styles had variable effects on the self-esteem, social competence, moral development, and aggressive behavior of children and adolescents. Unfortunately, Lamborn, Mounts, Steinberg, and Dornbusch (1991) have indicated that there continues to be a paucity of empirical consideration of the joint and interactive effects of parental support and control on adolescent behavior.

Defining Parental Support and Parental Control

The dimensions of parental support and control have been operationalized in a number of different ways. Parental support has been labeled warmth, affection, nurturance, and acceptance (e.g., Becker, 1964; Martin, 1975; Rollins & Thomas, 1979; Schaefer, 1959; Siegelman, 1965), while parental control has been operationalized as (1) specific behavioral control attempts, (2) the outcome of parental control attempts, and (3) psychological control (Barber, 1992; Baumrind, 1966; Becker, 1964; Maccoby, 1961; Rollins & Thomas, 1979; Schaefer, 1959, 1965). Other examples include firm vs. lax

control (Schaefer, 1965), directive/conventional, assertive, and supportive control (Baumrind, 1991a), demandingness (Roe & Siegelman, 1963), and restrictiveness (Baumrind & Black, 1967). Despite the numerous conceptualizations of these parenting styles, the dimensions of parental support and control are consistently unveiled in factor analyses and were the primary parenting constructs examined in the present study.

Parenting Styles and Adolescent Behaviors

Parental support is one aspect of parenting that seems to convey to children information regarding their inherent worth (Gecas & Schwalbe, 1986) and has been shown to correlate with prosocial outcomes in children of all ages (Barber, 1992). Lamborn and Steinberg (1993) found that parental support was positively correlated with psychosocial development in children. Past research into the relationship between parenting styles and the self-esteem of children and adolescents supports these points. For example, Coopersmith (1967), who studied preadolescents, found that parental acceptance (support) of the child and clearly defined and enforced limits on the child's behavior (control) were associated with high self-esteem in the child. Gecas (1971) and Growe (1980) also found that maternal and paternal support had a positive influence on boys and girls self-esteem. Nielsen and Metha (1994) found that maternal and paternal support of female adolescent children had a significant positive relationship with adolescent self-rated competence. Interestingly, however, these authors also found that

the correlations between maternal and paternal support and male adolescents' competence were negative but did not reach significance.

Armentrout (1971) found that internalizing behaviors in preadolescents showed significant negative correlations with maternal and paternal support. Parker (1979) discovered that parental support was negatively correlated with depression in adult children. Similarly, Stice, Barrera, and Chassin (1993) noted that the literature has shown negative relationships between parental support and conduct problems, delinquency, adolescent alcohol use, and adolescent illicit substance use. However, Baumrind (1991a) and Smart, Chibucos and Didier (1990) found more complex quadratic effects of parental support on adolescent substance use, suggesting that the effects of parental support may be nonlinear. Specifically, the quadratic effects found by Baumrind and Smart et al. suggest that very low or very high levels of parental support are more likely to be associated with adolescent substance use than are moderate levels of parental support. In general terms, it is low levels of parental support that have been consistently linked to most types of adolescent adjustment difficulties (Barber, 1992).

The role of parental control in the socialization of adolescent children is somewhat more complex. Adolescents who described their parents as more democratic and warm but also as firm have been found to earn higher grades in school compared to their peers (Dornbusch, Ritter, Liederman, Roberts, & Fraleigh, 1987; Steinberg, Elmen, & Mounts, 1989). Gecas (1971) found positive correlations between maternal

control and both male and female adolescent children's self-esteem. Conversely, Growe (1980) discovered positive correlations between maternal control and boys' self-esteem but negative correlations between maternal control and girls' self-esteem. Nielsen and Metha (1994) found negative correlations between maternal and paternal control and female adolescents' competence.

Gecas and Seff (1990) noted that different types of parental control have opposite effects on the behavior of adolescent children. For example, Barber (1992) differentiated between behavioral undercontrol and psychological overcontrol. Behavioral undercontrol is an insufficient level of monitoring of the child's behavior or whereabouts. A lack of behavioral regulation by parents of their adolescent children has been associated with problematic child behavior (Loeber & Dishion, 1984), drug use (Dishion & Loeber, 1985), delinquency (McCord, 1990; Patterson, Capaldi, & Bank, 1989), and sexual precocity (Miller, McCoy, Olson, & Wallace, 1986). However, negative correlations between these kinds of externalizing problems and permissive parenting have also been found in other studies (e.g., Barber, Olsen, & Shagle, 1994). Psychological overcontrol can be defined as parental interference that intrudes on the child's development of psychological autonomy. Examinations of parental psychological control have shown that this style is harmful to the child's development of psychological or social competence because it disrupts the natural course of individuation and self-discovery (Barber, 1992). Positive correlations have been found between internalizing problems

and a psychologically controlling style of parenting while negative correlations have been found between externalizing problems and permissive parenting (Maccoby & Martin, 1983). Finally, Stice et al. (1993) observed that the literature also shows curvilinear relationships between parental control and adolescent problem behaviors. As can be seen, parental support is a multi-faceted construct that has a number of different relationships with adolescent behavior.

The interplay between parental support and control (see Figure 1) and the behavior of adolescents can also be complex. Lamborn et al. (1991) found adolescents from authoritative homes (high support and control) showed significantly higher academic competence and psychosocial competence, and significantly lower levels of problem behavior compared to adolescents from authoritarian (low support and high control), indulgent (high support and low control), or neglectful (low support and low control) households. Adolescents with neglectful parents were found to be reliably worse off on all eleven outcome variables measured compared to those from authoritarian, authoritative, or indulgent homes. Those adolescents from authoritarian and indulgent homes showed patterns of both strengths and weaknesses. Overall, however, children of authoritarian or indulgent parents were less well adjusted than those from authoritative homes but were better adjusted than those from neglectful backgrounds. This study exemplified the importance of considering both parental support and control in relation to adolescent behaviors.

Fletcher, Darling, Steinberg, and Dornbusch (1995) examined the effects of authoritative parenting on adolescent psychosocial and psychological functioning. Using Baumrind's (1967) definition of authoritative parenting, a style characterized by high levels of parental warmth and high levels of firm control, the authors measured adolescent academic achievement, psychosocial competence, and internalized distress. This was done by considering not only the adolescents' individual parental environments but also their friends' perceptions of parenting among their families. The results showed that adolescents had better grades and had more positive perceptions of their academic competence if their friends described their parents as authoritative. Girls who reported higher authoritativeness among their friends' parents also reported lower scores on measures of depression and anxiety. They also showed higher self-reliance and self-esteem. For boys, the same pattern was evident but did not reach significance. The authors interpreted their findings as evidence that the impact of authoritative parenting can be direct and indirect. That is, competent adolescents are attracted to and influence one another. These authors surmised that adolescents are affected directly by their parents' behavior and indirectly by the influence their friends' parents have on their friends' behavior.

The relationship between parental behaviors and internalizing and externalizing adjustment difficulties in children and adolescents is of particular relevance to the present study. Externalizing problems are those manifested overtly such as drug use, acts of

violence and aggression, impulsivity, and antisocial tendencies. Internalizing problems are intrapsychic, occurring privately or internally. Examples include depression, anxiety, shyness, eating disorders, and suicidal ideation. Parental support and parental control have been shown to correlate with many different internalizing and externalizing behavioral problems in children and adolescents.

Table 2 represents an overview of some of the salient correlational studies that have examined the relationship between parental support and control and adolescent problem behaviors. Column 1 lists the authors and publication year while column 2 describes the sample. Column 3 lists the adolescent behavior measured in each particular study. Columns 4 and 5 represent the correlation coefficients for the relationships between the adolescent behavior measured and parental support and control. In many of the studies, correlations were found between maternal or paternal support and control and the adolescent behavior. Differences in these relationships were also assessed for male and female children and adolescents. These differences are explained in the body of the table (columns 4 & 5). Some of the studies represented in Table 2 will be reviewed in more detail below.

Parenting Styles and Internalizing Problems

Gelrsma, Emmelkamp, and Arrindell (1990) reviewed studies which measured children's perceptions of parental rearing styles (parental support and control). Effect

sizes for comparisons between experimental (depressed subjects or anxious subjects) and control groups were computed for parental support and control. The authors found that anxious children reported less parental affection (i.e., low support) and greater parental control. In depressed children, the largest effect sizes were also for less parental affection (support) and more parental control.

In their study on the impact of parenting on adolescent problems, Forehand and Nousiainen (1993) discovered that paternal acceptance played a role in anxiety/ withdrawal difficulties in adolescents but only through its interaction with maternal acceptance. Paternal acceptance did not compensate for a lack of maternal acceptance but did moderate the relationship between maternal acceptance and internalizing problems.

Studies by deMan, Labreche-Gauthier, and Leduc (1993) and Martin and Waite (1994) examined the relationship between parenting and suicidal ideation in adolescents. Both investigations found that parents who were controlling but not supportive were more likely to have adolescent children who reported suicidal ideation. The latter study found that these adolescents were also at an increased risk for deliberate self-harm and were five times more likely to be depressed.

In a recent review of the literature, Kaslow, Deering, and Racusin (1994) highlighted a number of trends in studies of depressed children and their families. These authors found that depressed children tended to view their families as less social, less cohesive, more controlling and conflictual, and less consistent. It was also reported that

recent studies have shown that depressed children perceive their parents as autocratic, controlling, and as restricting the child's input in decision-making. Parents of depressed children have also been reported to provide less positive reinforcement and show less positive affect.

Parker (1983) studied 125 depressed outpatients with respect to their views of their parents' child-rearing styles. Compared to control subjects, the depressives rated their mothers and fathers as significantly more protective and less caring. This pattern of parenting was labeled 'affectionless control.' Maternal affectionless control was reported to affect females more than males. Female subjects also reported that maternal protection was more prevalent than paternal protection in this style. A similar description was reported by depressed men. This study confirmed previous findings which showed that depressed patients often perceive their parents as having been less supportive and more controlling.

Another study which examined the relationship between depression in offspring and parenting was conducted by Zemore and Rinholm (1989). These authors found that, after adjusting for the effect of current affective states on recall of parental behavior, depression in sons correlated with cold, rejecting fathers while depression in daughters was strongly related to intrusive, controlling mothers.

Blatt, Wein, Chevron, and Quinlan (1979) examined 121 introductory psychology students' descriptions of their mothers and fathers in relation to the students' perceptions

of themselves. Ratings of mothers and fathers as positive figures correlated significantly with positive self-ratings and negatively with self-ratings on depression and self-criticism. Significant correlations were also found between the students' perceptions of their mothers and fathers as nurturing and lower depression and self-criticism scores. Perceptions of parents as lacking in nurturance, support, and affection correlated positively with self-rated depression in the students.

Eastburg and Johnson (1990) studied the relationship between parental behavior and social reticence in adolescents. Following the work of Armentrout (1971), who found a negative correlation between parental support and internalizing symptoms in preadolescent children, Eastburg and Johnson found significant correlations between adolescents' self-reported shyness and low maternal support. These correlations were true only for mother-daughter relationships, not father-daughter relationships.

The studies reported above all examined the relationship between parental support and control and internalizing difficulties in children, adolescents, and university students. A parental style of affectionless control (i.e., low support and high control; Parker, 1979) has been found to correlate significantly with problems such as depression, anxiety, low self-esteem, suicidal ideation, and low psychosocial competence in children and adolescents. Although some moderating influence of parent gender has been found, the pattern of affectionless control tends to correlate with internalized distress in children and adolescents.

Parenting Styles and Externalizing Problems

Early investigations that examined the relationship between parenting styles and conduct problems in children and adolescents yielded interesting findings. For example, McCord and McCord (1959) discovered that fathers described as nonaffectionate tended to be associated with families with delinquent children. Mothers described as nonaffectionate and indifferent tended to have children who were more delinquent. West and Farrington (1973) and Wadsworth (1979) uncovered similar patterns, identifying parents lacking in displays of affection for their children as more likely to have delinquent children. Furthermore, Forehand, King, Peed, and Yoder (1975) found that mothers of conduct disordered children were more likely to issue higher rates of command and criticisms.

Forty-seven studies conducted between 1945 and 1992, which looked at childhood and adolescent externalizing problems and parent-related variables, were subjected to meta-analysis by Rothbaum and Weisz (1994). They examined the effect sizes of associations between parent variables and child externalizing behaviors, the age and gender of the children, the impact of other demographic variables on the relationship between parent variables and externalizing behaviors in children, and the utility of questionnaire-, interview-, and observation-generated data. Rothbaum and Weisz found that patterns of caregiving by parents, as characterized by a combination of variables such as approval, guidance, and absence of coercive control, yielded greater negative

correlations with externalizing in children than did any of those variables measured alone. That is, considering multiple parent variables as a constellation was a more reliable predictor of a presence or absence of childhood externalizing problems than any one variable measured in isolation.

In her study of Australian adolescent secondary school students, Mak (1994) examined adolescents' perceptions of parental behavior and their self-reported delinquent behaviors. Mak hypothesized that maternal and paternal neglect (lack of parental support) and overprotection (parental control) would correlate positively with adolescent delinquent behaviors. Pearson correlations revealed the anticipated bivariate relationships. In both male and female adolescents, significant correlations were found between delinquency and low parental care (support). The same was true of delinquency and high parental protection (control). The combined effect of low parental care and high parental protection (i.e., affectionless control) was associated with higher delinquency scores in both male and female adolescents. This pattern was particularly prevalent in adolescent males who perceived their fathers as having an affectionless control style of parenting.

Miller, Cowan, Cowan, Hetherington, and Clingempeel (1993) investigated the impact of parental psychopathology and personality on externalizing behavior in children. The authors were interested in examining the amount of variance accounted for in path-analytic models describing the relationship between parental characteristics (e.g.,

depression), conflict in the parental relationship, and externalizing behavior in children. The results of the analyses indicated that the effects of maternal or paternal psychopathology on their children's externalizing behavior was indirect. Specifically, maternal psychopathology appeared to reduce positive affect between the spouses which resulted in the parents showing less warmth to their children. The same pattern was apparent for fathers but, rather than showing less warmth, fathers showed less control over the child. For the child, less maternal warmth and less paternal control increased their externalizing behavior.

Stice et al. (1993) investigated the relationship between parental support and control with adolescent externalizing problems, alcohol use, and illicit substance use. The general pattern of results suggested that more complex, quadratic relations exist between parental support and control and externalizing problems than previously reported. Parental control showed quadratic relations to adolescent externalizing symptoms and illicit substance use but not adolescent alcohol use. Similar findings were uncovered for parental support. This study helped to demonstrate that those children or adolescents who receive either too much or too little parental support or control are at higher risk for developing externalizing symptoms.

The results from studies examining the impact of parenting styles on adolescent externalizing difficulties are somewhat more complex than those related to internalizing problems. Similar to studies that found internalizing behaviors in children and

adolescents, studies examining externalizing problems have uncovered correlations between an affectionless control style of parenting and problems such as delinquency. However, delinquency has been found to correlate with parenting styles characterized by both low support and control. More complex relations between parental support and control and delinquency have also been found, where too much or too little of either parent variable increased the risk of adolescent delinquent behavior. Many of these findings have also indicated that parent gender and parental psychopathology can be moderators. From the studies reviewed, it can be postulated that a high level of parental support correlates negatively with delinquency in children and adolescents. However, very high or low control seems to correlate positively with delinquent behavior in adolescents.

Other Parenting Constructs and Problem Behaviors

In addition to parental support and control, other parenting variables play an important role in the socialization of children and adolescents. One parenting construct that has received a great deal of attention in the developmental, psychological, and educational literature is physical (corporal) punishment. In her review of the literature, Steinmetz (1979) asserted that maternal physical punishment correlated positively with increased aggression in boys and paternal physical punishment correlated positively with increased aggression in girls. She also noted that high and low levels of maternal

physical punishment correlated negatively with aggression in girls while high and low paternal physical punishment correlated positively with aggression in boys. This suggested a curvilinear relationship between aggression and physical punishment.

Straus (1991) suggested that, although physical punishments such as spanking promote short-term compliance, the long-term effects on the child's development tend to be negative. The long-term effects of physical punishment on individuals were later examined by Straus and Kantor (1994). These authors found that adults who were punished physically as children were more likely to be depressed, suicidal, abuse substances, and use excessive force in disciplining their own children compared to adults who were not physically disciplined as children. Harsh discipline has also been found to exacerbate the deleterious effects of marital discord in the prediction sons' future criminal behavior (McCord, 1991).

Parenting styles such as reasoning, monitoring, and involvement have also been considered in empirical studies of child and adolescent socialization. In their review of the literature, Maccoby and Martin (1983) found that parental reasoning correlated positively with prosocial outcomes in children. Steinmetz (1979) found that reasoning correlated positively with attention-seeking but negatively with dependency. Shaw and Scott (1991) found that parental induction (reasoning) correlated negatively with delinquency and that this relationship was mediated by locus of control.

Parental monitoring, the level of parental knowledge of a child's activities and

whereabouts, has been found to correlate negatively with internalizing and externalizing problems (Barber et al., 1994). Maccoby and Martin (1983) noted that low parental monitoring has been associated with increased conduct problems, delinquency, and school-related difficulties.

The degree of involvement (i.e., time spent with children; parents' interest in social and educational aspects of the child's life) of parents in the parent-child relationship has also been shown to be an important parenting construct in the socialization of children and adolescents. Low levels of parental involvement have been found to be associated with poor adjustment in children and young adolescents (Capaldi & Patterson, 1991). Frick (1993) found that, in 22 of 29 studies reviewed, there was a significant negative correlation between conduct problems and parental involvement and that a lack of paternal involvement had a stronger relationship with antisocial behavior than a lack of maternal involvement. Simons, Whitbeck, Beaman, and Conger (1994) found that paternal involvement was negatively correlated with externalizing problems in boys and girls and they further discovered that involvement by nonresidential fathers (families of separation and divorce) diminished the probability that adolescents would have conduct problems. Gecas and Schwalbe (1986) found positive relations between adolescents' perceptions of parental involvement and self-esteem. Simons, Johnson, and Conger (1994) found that when they controlled for the influence of involvement, the effects of corporal punishment dissapated, suggesting that inconsistencies in discipline

(see Moore & Arthur, 1989) and a lack of parental involvement increase the risk for problem behaviors in children and adolescents.

The literature has, over the past two decades, begun to elucidate the importance of variables such as involvement, reasoning, and monitoring. For example, Maccoby and Martin (1983) asserted that the degree of parental involvement is an indicator to children of parental interest in a child's or adolescent's life (support). If excessive, involvement can be overcontrolling and intrusive (control). These authors also postulated that the correlation between parental reasoning and prosocial outcomes in children depended on the use of parental power assertion. Given the empirical research findings supporting the importance of these other parenting variables and their relationship to the more primary parenting constructs, the present study included them in the analyses.

The Importance of Moderator Variables

Researchers have often used simple bivariate correlational designs to assess the relationship between parenting styles and adolescent problem behaviors. Unfortunately, these simple designs do not allow for the possibility that a third variable may affect the relationship between the two variables of interest. In personality research, such third variables are called moderator variables. Baron and Kenny (1986) suggested that "within a correlational analysis framework, a moderator is a third variable that affects the zero-order correlation between two other variables" (p. 1174). The meaning of a moderator

variable is that variables A and B will have one form of relationship at one level of variable C and a different form of relationship at a second level of C (Hull, Tedlie, & Lehn, 1992). These moderated relationships are often examined when the simpler, bivariate associations are smaller than expected or inconsistent.

In the parent-child relationship literature, a number of variables have been hypothesized to moderate the correlation between parenting styles and the behavior of children and adolescents. For example, culture, ethnicity, socioeconomic status, social class, birth-order effects, gender of the adolescent, and involvement of the father have been posited to moderate the parent-child relationship (for a review, see Peterson & Rollins, 1987). Other potential moderators, such as the number of parents in the household (Dornbusch, Carlsmith, Bushwall, Ritter, Leiderman, Hastorf, & Gross, 1985), family stress (Barber, 1992), number of children in the family (Garbarino, Sebes, & Schellenbach, 1984; Peterson & Rollins, 1987), dominance of the parents (Schwarz & Getter, 1980), and the child's early temperament (Maccoby & Martin, 1983) have been addressed only cursorily.

Belsky (1984) developed a theoretical model in an attempt to account for the many determinants of parental behavior. He suggested that parenting was shaped by parental personality characteristics, characteristics of the child, and the broader social context, including external support networks, occupational experiences, and marital relations. Belsky's work did not establish these variables as moderators but did

demonstrate the importance of considering other variables when examining the nature of the parenting style/adolescent behavior relationship.

Adolescent Personality as a Moderator

To date, the literature has not addressed how the personality characteristics of adolescents may moderate the relationship between parenting styles and behavioral difficulties experienced by adolescent children. Barber (1992) has called for such examinations, asserting that we cannot understand which children are at risk for a particular problem until we have "better information on how individual children vary in responding to and eliciting their environments" (1992, p. 70). For this reason, the present study examined the potential moderating effects of adolescent personality characteristics on the relationship between adolescent problem behaviors and parenting styles. Although this is only the first step in exploring these moderated relationships, such analyses represent an improvement over the simpler bivariate conceptualizations replete in the existing literature.

Barber (1992) further postulated that the need to consider individual differences among children is accentuated by "research which has identified personality characteristics predictive of adolescent problems that appear to be continuous from childhood to adolescence" (p. 74). In addition, certain personality traits have been shown to differentially affect the nature of the impact of differing parenting styles on adolescent

problem behaviors. For example, Barber (1992) reviewed studies that examined the impact of shyness on internalizing and externalizing behaviors. Shy children were found to be more adept at avoiding delinquent behavior because of their naturally withdrawn and reserved personality styles. Conversely, Barber postulated that shyness could also be a risk factor for the development of internalized distress because shy children may lack the assertiveness necessary to defend against external controls. The importance of individual differences among children is further underscored by Kaslow et al.'s (1994) review of the literature on depressed children and their families. These authors noted that children respond in varying ways to similar parental environments. That is, some children exhibit externalizing problems, others display internalizing patterns, and others seem resilient in response to parental psychological difficulties and maladaptive parenting styles. These results suggest the importance of individual differences on the relationship between parenting and adolescent problem behaviors. However, the key variables are, as yet, unknown.

Five Factor Model of Personality

In order to determine the role adolescent personality plays in the relationship between parenting style and adolescent behavior, the present study measured adolescent personality using the Five Factor Model (FFM) of personality. Goldberg (1992) asserted that in a wide variety of studies that have involved descriptive terms, five broad factors

are consistently found. Although the majority of research has focused on adults, others have found evidence supporting the existence of the five factors in pre-adolescents and early adolescents (e.g., Graziano & Ward, 1992; John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994). These five factors have been labeled Extraversion (Factor I), Agreeableness (Factor II), Conscientiousness (Factor III), Neuroticism (Factor IV), and Openness (Factor V). Extraversion is defined by descriptors such as assertive, talkative,and energetic versus timid, untalkative, and inhibited. Agreeableness is defined by terms such as kind, warm, and sympathetic versus unkind, harsh, and unsympathetic. Conscientiousness is defined by traits such as efficient, organized, and systematic versus disorganized, inefficient, and sloppy. Neuroticism is defined by descriptors such as relaxed and imperturbable versus envious, anxious, and nervous. Openness is defined by terms such as creative, imaginative and philosophical versus unimaginative, and simple. In the present study, eight adjectives were used to measure each of the five factors (40 items in total). The Five Factor Model is a particularly useful measure of personality because it integrates a wide range of personality constructs, facilitates communication among practioners and researchers, is comprehensive, and represents the potential for consistent replication for the first time in the study of personality (McCrae & John, 1992).

Perceptions of Parental Behavior and Adolescent Adjustment

The primary studies investigating the relationship between parenting styles and adolescent behavior have used parents' and adolescents' retrospective ratings of one another's behavior. Controversy exists about whether it is necessary to have both the parents and the child rate each other's behavior. The discrepancy can be highlighted by contrasting studies by Garbarino et al. (1984) and Brook, Whiteman, Gordon, Brenden, and Jinishian (1980). In the former study, parental reports of their adolescent's internalizing problems were disparate from the adolescent's self-reports. However, in the latter study maternal reports corresponded significantly with the adolescents' reports. It must be noted, however, that the Garbarino et al. (1984) investigation had the participants rate adolescent problems while the Brook et al. (1980) study had subjects rate maternal behavior.

With respect to the role of personality as a moderator of the parent-child relationship, Battistich, Assor, Messe, and Aronoff (1985) suggested that personality affects a person's perception when that person construes features of the target person as having hedonic relevance. This is particularly the case for children's perception of their parents. Battistich et al. asserted that when an observer believes "that the target will influence the observer's outcomes, the situation should promote attempts at accurate person perception" (1985, p. 193). Others have suggested that it is the adolescent's perception of social/familial reality that guides his/her behavior (see Pardeck & Pardeck,

1990; Gecas & Seff, 1990). Furthermore, Ausubel and his co-workers noted that:

> although parent behavior is an objective event in the real world, it affects the child's ego development only to the extent and in the form in which he peceives it. Hence, perceived parent behavior is...a more direct, relevant and proximate determinant of personality development... (Ausubel, Balthazar, Rosenthal, Blackman, Schpoont, & Welkowitz, 1954, p. 173).

Buri (1989) also asserted that adolescents' perceptions may be a more important predictor of adolescent outcomes than parental reports of their own behavior. Therefore, an abundance of support exists in the literature for the notion that problem behaviors should correspond with adolescent reports of parental behavior because the adolescents' perception of their parents is what will guide their behavior. In essence, the parent's actual behavior appears to be less important than the adolescent's perception of it.

This premise, that adolescents' perceptions of their parents' behavior will guide the adolescents' behavior, was asserted in the opening statement of Schaefer's (1965) article: "A child's perception of his parents' behavior may be more related to his adjustment than is the actual behavior of his parents" (p. 413). Gecas and Seff's (1990) review of the literature found that the development of self and identity in adolescents was related to parental behavior but that this correlation was stronger when based on the adolescents' perceptions of parental behavior. These authors asserted that such findings indicate that the behavior of adolescents is based more on "their own interpretations of

family realities than...on the realities of other family members" (p. 949). Gecas and Schwalbe (1986) found that children's and parents' reports of parental support and control showed low-to-moderate correlations. Not only did the authors find differences in the reports of parental behavior based on the parents' and children's perceptions, they also found that adolescent self-esteem and behavior were more strongly related to adolescents' perceptions of parental support and control. Smetana (1995) found that adolescents and parents had very different perceptions of parental behavior. Adolescents were found to view their parents as more permissive and more authoritarian than did mothers or fathers. The author also discovered that parents viewed themselves as more authoritative compared to their adolescent children's perceptions. For these reasons, the present study assessed both parental and adolescent behavior from the point-of-view of the adolescent.

Overview of the Present Study

In order to examine the relationship between parenting styles and problem behaviors in more detail than previous research, the present study measured several aspects of adolescent functioning, including a variety of problem behaviors. Parental support and control were measured by examining adolescents' perceptions of their parents using the Parental Bonding Instrument (Parker, Tupling, & Brown 1979). Parenting styles were further described by having the adolescents rate the degree of

parental reasoning, involvement, consistency of discipline, and monitoring. Anxiety, depression, social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior were the problems measured in this study. Although these descriptors of problems could be considered 'clinical' problems, they represent the uncorroborated behavioral self-reports of the adolescent participants. That is, they should not be equated with 'clinically significant' problem behaviors.

Unique to the present study is its consideration of the potential moderating effects of personality on the relationship between parenting styles and problem behaviors. Personality is measured by the five factor model of personality (extraversion, agreeableness, conscientiousness, neuroticism, and openness). The goal of this study was to be able to say that parenting style P is a general risk factor for problem behavior B but, this risk is greater for adolescents high on personality style X than for those low on personality style X.

Method

Participants

The participants (N=468; mean age=17) were drawn from elementary and high school classes inthe Lakehead Board of Education public schools (N=340) and introductory psychology classes at Lakehead University (N=109) in Thunder Bay, Ontario. A description of the sample is presented in Table 3. Data from 19 participants

were excluded from the analyses because of improper or incomplete questionnaire responses, leaving 449 participants for the final data analysis. Thirty-four percent of the participants were males, 63% were females, and 3% failed to identify their gender.

Procedure

Permission to conduct the present study was obtained from the Lakehead University Ethics Committee and the Lakehead Board of Education. Copies of the proposal were then submitted to the Department of Psychology at Lakehead University. Elementary and secondary school principals in the Lakehead Board of Education were contacted and asked for their cooperation in obtaining participants. A full description of the study was provided in writing to each principal. Once permission to access participants was granted by the principal, teachers were asked to allow the researchers to visit individual classes. For the university sample, professors were contacted directly.

An administration time was scheduled with the classroom teachers and university professors. In the public schools, students under the age of sixteen were required to take a parental consent form home for their parents' consideration. At the arranged time, the researcher returned to the classroom setting for the administration of the questionnaire. Prior to commencing with the questionnaire, all parental consent forms were collected. Individuals under sixteen who failed to present a signed parental consent form were not permitted to participate. The students were then instructed that their responses would remain anonymous and confidential, that there were no risks or direct benefits for their participation, that their participation was voluntary, and that they were

free to withdraw at any time. All students were then asked to sign the participation consent form. On average, the students needed 45 minutes to complete the questionnaire. Upon completion of the questionnaire, each participant received an information/ debriefing sheet explaining the general nature of the study. All were informed that they would be able to access the results once the data had been analyzed. Copies of the consent and debriefing forms can be found in Appendix A.

Measures

The questionnaire used in the present study (see Appendix B) was a composition of common, reliable psychometric instruments. Each of these measures, described in more detail below, can be found in Appendix C where the items are categorized by measure and subscale. Basic demographic information was also requested. All of the questionnaire items were rated on an eight point Likert scale ranging from extremely inaccurate (1) to extremely accurate (8). Cronbach's alpha reliabilities for the scales are reported in Table 4.

The Parental Bonding Instrument (PBI). The PBI is a 25-item, retrospective self-report measure which assesses a person's perception of his/her parents (Parker et al., 1979). In its development, factor analysis initially revealed three primary factors that were later collapsed into two, and there was clear evidence for the dimensions of parental support and parental control. Parker's (1981) study found that subjects' depression scores were linked "with lower maternal care and maternal overprotection, whether the maternal characteristics were judged by subjects or the mothers themselves"

(Psychological Abstracts, 1982, p. 408). The author concluded that the PBI is a valid measure of perceived and actual parental characteristics.

In the present study, the items were rated twice by the subjects; once for each of their parents. The reliability coefficients for the support and control dimensions are reported in Table 4. A sample item from the support scale is: "My mother speaks to me with a warm and friendly voice." Sample item from the control scale: "My mother tries to make me dependent on her."

In the present study, the 25 items from the PBI were subjected to factor analysis to confirm the factor structure and consistency of the two scales. There were four factors with eigen values greater than one, with 3 of the factors representing variations of parental control. Separate scales were constructed for these three control factors, but the findings using these additional scales did not differ from the overall control scale. For this reason, only the findings using the primary support and control factors are reported below.

Additional Parenting Variables. In an attempt to augment the information yielded from the examination of the relationship between the primary parenting variables and problem behaviors, items tapping parental punishment (Simons, Johnson, & Conger, 1994), reasoning (Simons, Whitbeck, Beaman, & Conger, 1994), involvement (Gecas & Schwalbe, 1986), consistency of discipline (Simons et al., 1994) and monitoring (Barber et al., 1994) were included in the questionnaire. As with the primary parenting dimensions, most of these scales were rated by the subjects for each parent. Parental consistency of discipline and monitoring were the only parenting variables on

which subjects rated the influence of their mother and father together. The reliabilities for the additional parenting dimensions are reported with the primary scale reliabilities in Table 4. Examples of the items from these scales include: "My father often spanks, slaps, or hits me when I do something wrong" (physical punishment); "My mother yells and screams at me" (verbal punishment); "My mother always gives me reasons for her decisions" (reasoning); "My father enjoys doing things with me" (involvement); "When my parents punish me, the kind of punishment depends on their mood" (consistency of discipline); and "My parents know what I do with my free time" (monitoring).

The Child Depression Inventory (CDI). The CDI is a 27-item self-report measure which was developed based on the Beck Depression Inventory (BDI; Kovacs & Beck, 1977). As a measure of childhood depression, the CDI has been shown to correlate with diagnoses of depression (Carlson & Cantwell, 1980). Helsel and Matson (1984) found this measure to have better internal consistency than other tests designed to assess childhood pathology. In the present study, the scale's reliability was .90 for for male raters and .93 for female raters. Sample item: "Nobody really loves me."

What I Think and Feel. This measure of children's anxiety is a revision of the Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978). The scale was derived from a draft of 73 items. In its final form, the present scale consists of 28 anxiety items and 9 lie items. The present study used only the 28 anxiety items in the questionnaire. Reynolds and Richmond reported reliability estimates of .83 and .85 for the shortened scale. The reliability of this scale in the present study ranged from .90 to .92. An example of the item content is, "I worry a lot of the time."

Child Behavior Checklist. Achenbach and Edelbrock's (1983) Child Behavior Checklist is a self-report measure that taps a number of problem areas for children ages four to eighteen. In the present study, only those items from the social problems, thought problems, attention problems, delinquent behavior, and aggressive behavior subscales were used. The social problems scale measures the degree of comfort experienced by youths in interpersonal situations (sample item: "I am not liked by other people"). The thought problem scale taps odd and distressing patterns of information processing (sample item: "I can't get my mind off certain thoughts"). The scale measuring attention problems addresses difficulties of concentration and the ability to plan and organize (sample item: "I act without stopping to think"). The delinquent behavior scale measures antisocial tendencies (sample item: "I hang around with people who get in trouble"). The aggressive behavior scale measures problems with anger control and lashing out against others (sample item: "I get in many fights"). The reliabilities for these scales ranged from .68 to .91.

Five Factor Model of Personality (FFM). Subjects rated their own personality characteristics using Saucier's (1994) abbreviated version of Goldberg's (1992) 100 adjective markers of the Big-Five factor structure found in personality research. In its shortened form, the 100 adjective markers were reduced to 40 adjectives, eight items for each of the five factors. This reduction did result in a decrease in interscale correlations but little data are available which attests to the shortened version's reliability. In the present study, the correlations between the 40 items were subjected to a principal-components analysis with varimax rotation which generally confirmed the item loadings

on their respective factors. Factor scores were then computed for the five scales and the results for analyses based on factor scores were similar to results for analyses based on scale mean scores. The mean scale scores were used in the analyses because McCrae, Zonderman, Costa, Bond, and Paunonen (1996) have argued that the five factors are generally, but not completely orthogonal, and because mean scores will be more directly interpretable to readers. The reliabilities for the five factors ranged from a high of .81 (female agreeableness) to a low of .66 (male neuroticism).

Results

In order to maintain the integrity of the text, all of the tables and figures are presented at the end of this paper. Descriptive statistics were calculated for the subjects' ratings on all of the scales. Tables 5 through 7 display the means and standard deviations for the subjects' ratings of parents, personality and, problem behaviors, respectively.

Pearson Correlations

The simple, bivariate relationships between parenting styles, problem behaviors, and personality characteristics were not the prime focus of the present study, but they are, nevertheless, of interest and are presented in Tables 8 through 13. Tables 8 to 10 present the correlations between the various scales from each measure, while Tables 11 to 13 present the correlations between measures of parenting, problems, and personality. A brief summary of the relationships between measures is presented below.

Parenting Variables and Problem Behaviors. Pearson product moment

correlations for the relationship between parenting variables and problems are presented in Table 11. The results suggest unequivocal support for the co-occurrence of an affectionless control style of parenting and problem behaviors. An inverse relationship was found between maternal and paternal support and all problem behaviors (ranging from -.14 to -.44). Conversely, positive correlations were found between maternal and paternal control and problems (ranging from .06 to .31). These findings were consistent across gender of the parent and adolescent.

Positive correlations were also found between parental physical and verbal punishment and all problem behaviors. Negative correlations were found for parental involvement, consistency of discipline, and monitoring and problems. Variable results for parental reasoning were found, but the larger correlations tended to be negative.

Personality and Problem Behaviors. Table 12 presents correlations between personality characteristics and problems. The most consistent patterns were found for agreeableness, conscientiousness, and neuroticism. For both males and females, negative correlations were found between agreeableness, conscientiousness and problems (ranging from -.07 to -.50). For both males and females, negative correlations were also found between extraversion and depression and anxiety (ranging from -.24 to -.27). Conversely, positive correlations were found between neuroticism and all problem behaviors, the strongest being for depression in both males and females (.53 and .63, respectively). With the exception of the correlation between openness and thought problems, openness

appears to be relatively unrelated to problems.

Parenting Styles and Personality. The most consistent pattern of correlations between parenting styles and personality exists between parental punishment, reasoning, and involvement and adolescent agreeableness and conscientiousness (see Table 13). Agreeableness and conscientiousness correlated negatively with parental physical punishment (from -.06 to -.25) and verbal punishment (-.16 to -.34) and positively with parental support (.13 to .39), reasoning (.14 to .34), involvement (.13 to .31), consistency of discipline (.06 to .28), and monitoring (.26 to .39).

Summary of Bivariate Relationships. The patterns found in the simple correlations suggest support for a positive correlation between parental control and adolescent internalizing and externalizing problems and a negative correlation between parental support and problems. Agreeableness and conscientiousness were the most relevant personality dimensions, correlating negatively with all problems. These personality characteristics also correlated negatively with parental control and physical and verbal punishment, but positively with support, reasoning, involvement, consistency of discipline, and monitoring. Not surprisingly, neuroticism correlated positively with internalizing and externalizing problems. In general terms, a correlation between problems and an affectionless control style of parenting was found in the simple bivariate relationships.

Analytic Strategy for the Identification and Display of Moderated Relationships

In order to assess the potential moderating role of personality characteristics on the relationship between parenting styles and problem behaviors, moderated multiple regression analyses were used (Cohen & Cohen, 1983). This technique allows researchers to examine the combined influences of two or more independent variables on the dependent variable. In the present study, the independent variables (parenting styles and personality characteristics) were entered into a regression equation followed by their cross-product. A significant interaction (i.e., cross-product) term is indicative of differences in the slope of the predictor variable on the dependent variable at varying levels of the moderator (Cohen & Cohen, 1983). The independent variables were transformed into deviation score form so that their means equalled zero. This 'centering' technique allows researchers to dramatically reduce the large standard error (associated with the lower order terms) introduced by the multicollinearity of uncentered data (Aiken & West, 1991). Using this strategy, the present study uncovered a number of interesting moderated relationships.

In this study the partial correlations for the interaction terms are reported because they are more informative and easier to understand than other statistical values (i.e., R^2 change and F values), and because other values require more space (the R^2 change values can be computed by squaring the partial correlations). Tables 14 through 23 present the partial correlations. The larger the partial correlation, the more pronounced is the

moderated relationship (interaction).

The nature of a moderated relationship can be depicted graphically by repeatedly solving the regression equations at selected levels of the moderator variable. Three levels of the moderator, one standard deviation above and below the mean and the mean level, were chosen in accordance with Cohen and Cohen's (1983) recommendations.

A number of graphical displays of interactions are reported below, illustrating the primary patterns. However, there were a large number of interactions and it seemed impractical and unnecessary to provide a graph for each interaction. Instead, simple slope analyses (Aiken & West, 1991) were conducted for all interactions with partial correlations greater than .15. The standardized slopes for three levels of the moderator for each interaction are presented in Table 24. Rather than plotting every partial correlation in order to elucidate the nature of the interactions, the simple slope data provide a concise and manageable means of visualizing and reporting patterns in the interactions.

Four of the most salient patterns in the data will be described below. For each of the following descriptions, two or three graphical representations are offered as best-fit examples of the patterns described in order to make the presentation of the data manageable and easier to understand. To enable readers to examine the patterns more closely, Table 24 displays all of the simple slopes for the three levels of the moderators for each partial correlation greater than or equal to .15.

Effect Size, Confidence Intervals, and Significance Tests

Significance testing is now considered a widely misinterpreted and relatively poor and uninformative methodological procedure for most psychological research (Carver, 1978; Cohen, 1990, 1994; Meehl, 1966; Rozeboom, 1960; Schmidt, 1996). Significance tests indicate the probability of obtaining a particular effect size given that the null hypothesis is true. However, in contrast to popular belief, they provide no information regarding the probability of the truthfulness or falseness of the null hypothesis (Pollard & Richardson, 1987). Significance tests have been used to make yes-no decisions about the existence of an effect, but significance levels are very much influenced by sample size. Furthermore, reliance on significance testing can lead to overestimates of population effect sizes because smaller samples must have abnormally high (or unrepresentatively high) effect sizes to be found significant (Schmidt, 1996). Cohen, Schmidt and many others have claimed that the primary product of psychological research is effect sizes, which should be reported and accompanied by confidence intervals. The emphasis is on the sampling distributions of the population effect sizes, instead of on the sampling distributions of the null hypotheses.

In the present study, effect sizes in the form of Pearson correlations and partial correlations are reported in the tables of results, and a table of two-tailed confidence intervals is provided for their interpretation (see Table 25). Confidence intervals are reported for two sample sizes (N = 152 for males, and N = 282 for females) and for a

series of effect sizes. Furthermore, both 95% and 80% confidence intervals are reported. The 95% interval is more common, whereas the 80% interval was recommended by Cohen (1990). The confidence interval for a given sample and effect size indicates that 95% (or 80%) of the time the estimate of the population effect size will fall within the computed interval. Another interpretation is that there is a 95% (or 80%) chance that the population effect size falls within the interval. Confidence intervals also provide information about the statistical significance of null hypotheses: intervals that do not include the "zero" effect size are statistically significant.

Significance testing and effect sizes are problematic issues in moderated regression. The technique is widely recommended for testing interactions between continuous variables, but it is also known to be excessively conservative (Aguinis, 1995; Cronbach, 1987; McClelland & Judd, 1993). The reasons are not well understood and the debate is ongoing. Some statisticians recommend using more liberal significance levels, whereas others claim effect sizes equivalent to partial correlations of .10 are noteworthy (especially in field research) and deserve attention. In the present study, a decision was made to focus on interactions with partial correlations stronger than .15. It is at this level that graphs of moderated relationships begin to seem meaningful to the eye. Furthermore, confidence intervals for partial correlations of .15 generally did not include the zero effect size in this study.

Male Agreeableness and Conscientiousness as Moderators of the Relationship Between Parenting Styles and Externalizing Problems.

An examination of the partial correlations and simple slope patterns yielded evidence for a moderating influence of male agreeableness and conscientiousness on the relationship between parenting variables and externalizing behaviors. Figure 2a illustrates the interaction of maternal physical punishment and agreeableness as a predictor of aggressive behavior in males (partial $r = -.23$). This pattern shows that males with lower agreeableness scores were more likely to exhibit externalizing problems at high levels of maternal physical punishment compared to males higher on this personality characteristic. Table 24 shows that similar patterns exist for paternal physical punishment and both paternal and maternal verbal punishment in their interaction with agreeableness and conscientiousness.

Figure 2b shows the interaction between paternal control and agreeableness as a predictor of aggressive behavior in males (partial $r = -.34$). Males low on agreeableness were more likely to develop aggressive behavior at high levels of paternal control compared to males high on agreeableness. At low levels of parental control, the effect was minimal. The moderating relationship for conscientiousness was also found to be very similar to that depicted in Figures 2a and 2b.

Male Neuroticism as a Moderator of the Relationship Between Paternal Parenting Variables and a Range of Problem Behaviors.

Figure 3a depicts the moderating influence of neuroticism on the relationship between paternal verbal punishment and delinquency in males (partial $r = -.24$). For this interaction, males lower on neuroticism are more likely to experience externalizing problems at high levels of paternal verbal punishment compared to males who are subjected to lower levels of paternal verbal punishment. When this pattern is compared to males higher on neuroticism, the moderating effect is less pronounced, suggesting that neuroticism has a greater moderating effect for males lower on this characteristic.

The opposite pattern was found when the relationship between paternal support and male problem behaviors was examined when neuroticism was the moderator (partial $r = .29$). Figure 3b illustrates that those males low on neuroticism were less likely to exhibit depression when paternal support was high compared to boys with higher neuroticism scores. Intuitively, one would expect that males, in general, would be more susceptible to depression at low levels of paternal support. For those males low on neuroticism, this was found to be true. Conversely, males low on neuroticism were more likely to be depressed when paternal support was low compared to those boys higher on the neuroticism scale. This pattern was consistent across internalizing and externalizing problems.

Male Agreeableness and Openness as Moderators of the Relationship Between Parental Reasoning and a Range of Problem Behaviors.

Figures 4a and 4b present examples of the moderating effects of male agreeableness and openness on the relationship between parental reasoning and internalizing and externalizing problems. Males with lower agreeableness or openness scores were more likely to show evidence of anxiety and aggressive behaviors at high levels of maternal reasoning compared to those boys higher on agreeableness or openness. At low levels of maternal reasoning, the opposite effect was apparent. For the interaction between maternal reasoning and male openness in predicting aggressive behavior, the pattern was more pronounced at low levels of maternal reasoning. Although not represented graphically, the same pattern was true in the prediction of attention problems (see the simple slopes in Table 24). Tables 16 and 22 contain the relevant partial correlations.

A similar pattern was found when paternal reasoning was examined. In predicting problem behaviors, males lower on agreeableness or openness were less likely to display problems at low levels of paternal reasoning and more likely to have problems at high levels of paternal reasoning, when compared to males higher on these two moderators. Figure 4c illustrates this pattern.

Male Agreeableness, Conscientiousness, and Openness as Moderators of the Relationship Between Parenting Variables and Internalizing Problems.

The moderating influence of agreeableness, conscientiousness and openness in the prediction of internalizing difficulties in males can be seen across numerous parenting variables (see Table 24 and Figure 5a). At low levels of parental support, reasoning, involvement, and monitoring, males low on these moderators were less likely to show internalizing problems compared to those high on the moderators. Conversely, at higher levels of the parenting variables just listed, males lower on agreeableness, conscientiousness, and openness were more likely to report internalizing problems compared to those higher on the moderators.

When examining the moderating role for these three personality characteristics on the prediction of internalizing problems at different levels of parental control and physical and verbal punishment, the opposite pattern emerged (Figure 5b). Males higher on the moderators were less likely to have internalizing distress at low levels of the parent variables and more likely at high levels of the parent variables when compared to those lower on the moderators. This is the opposite of the effect described earlier for the prediction of externalizing problems from the interaction between such parental variables and agreeableness and conscientiousness.

Discussion

The primary intent of the present study was to explore the possibility of a moderating effect of personality on the relationship between parenting styles and problem behaviors in adolescents. The goal was to be able to say that certain parenting styles can be general risk factors for problem behaviors in adolescents, but that the severity of that risk would vary depending on different levels of adolescent personality characteristics. Grizenko and Fisher (1992) defined a risk factor as that which may "increase a child's vulnerability or the likelihood that he or she will develop difficulties in situations or stress, even minor stress" (p. 711). Previous research suggested that different levels of various adolescent personality characteristics might serve to protect the adolescent from or exacerbate the impact of parenting styles. In the present study, the impact of personality was measured by the degree of internalizing and/or externalizing problems experienced by the adolescent. The results indicated that adolescent personality characteristics do sometimes moderate the relationship between problems and parenting styles.

Summarizing the Overall Patterns

The findings of the present study indicate that agreeableness, conscientiousness, and neuroticism have a moderating influence on the relationship between parenting styles and adolescent problem behaviors. Agreeableness, conscientiousness, and neuroticism

moderated the influence of parenting variables in the development of internalizing and externalizing problems. Openness also showed some moderating influence, but the patterns were not as prevalent compared to those found for agreeableness, conscientiousness, and neuroticism.

The patterns found also indicated that personality is more predominant as a moderator for males compared to females. The effect sizes greater than .15 found in the present study were more common among males. In total, 82 of the partial correlations for males showed effect sizes greater than or equal to .15. Only 14 partial correlations equalled or exceeded .15 in the female data.

Another important pattern in the male data is that almost an equal number of the 82 partial correlations equalling or exceeding .15 represented interactions between personality and maternal and paternal variables, indicating the need to consider the role of both parents on the psychosocial development of their adolescent sons. In addition, 75% of these partial correlations in the male data represented interactions between personality characteristics and parenting variables other than support and control. This suggests that research examining the influence of parenting on the development of adolescent problems should pay closer attention to parenting variables such as physical punishment, verbal punishment, reasoning, involvement, consistency of discipline, and monitoring.

Explaining the Moderating Influence of Personality

A moderating influence of male agreeableness and conscientiousness was found for both internalizing and externalizing problems. The most striking pattern in the data was a moderating influence of agreeableness and conscientiousness in males for the relationship between parental control, physical punishment, and verbal punishment and externalizing problems. For all of the interactions with effect sizes of .15 or greater, males who scored lower on the moderators were more susceptible to externalizing difficulties at high levels of the parenting variables. Males higher on agreeableness and conscientiousness were less likely to experience externalizing problems at high levels of the parenting variables compared to those lower on the moderators. At low levels of parental control, physical punishment, or verbal punishment, the moderating influences of agreeableness and conscientiousness were negligible.

In an attempt to explain these results, it is important to consider both the adolescent's and the parents' perspective. From the adolescent's point-of-view, males who are less altruistic (low agreeableness) and more impulsive (low conscientiousness) may be inclined to rebel against controlling and punitive parental styles by acting out, resulting in higher externalizing behavior scores. Conversely, males who are more agreeable and conscientious may be better equipped to cope with tougher parenting or may be less likely to receive this type of parenting. From a parenting perspective, adolescents low on agreeableness and conscientiousness may be seen as in need of

more guidance and tighter parental controls, resulting in higher control and punitiveness scores. It is also important to recognize that it was low levels of agreeableness and conscientiousness that showed the greatest effects in these interactions.

In addition to the importance of agreeableness and conscientiousness in the prediction of externalizing behaviors, openness was also found to be an important moderator in the prediction of internalizing and externalizing problems. Specifically, a high level of parental reasoning was found to be a risk factor for the development of problem behaviors for adolescent males lower on openness. At low levels of parental reasoning, males higher on this personality attribute were more likely to experience problems. The simple correlations suggest that adolescents with parents who reason with them are less likely to develop problems while those adolescents who receive more autocratic parenting are more susceptible to problems. In the case of the moderated relationships found in the present study, it appears that adolescents who are resistant to change (low openness) will be less receptive to parental explanations and experience more internalizing and externalizing problems. On the other hand, adolescents who are receptive to new ideas will be more apt to experience distress in the face of low parental reasoning.

Agreeableness, conscientiousness and openness were important moderators of the relationship between parenting variables and internalizing problems. Males lower on these personality characteristics were less likely to experience internalizing problems at

low levels of parental support, reasoning, involvement, and monitoring and more likely to be anxious or depressed at higher levels when compared to males with higher scores on these moderators. During adolescence, a period characterized by the process of individuation, high parental support, involvement, and monitoring may be perceived as intrusive by males who are more guarded and egocentric, resulting in an increased likelihood for problems. Conversely, male adolescents who are more helpful, reliable, and open (higher scorers on the moderators) may better tolerate or even enjoy increased parental support and involvement.

The results of the present study suggest that the opposite pattern is true when one considers the role of parenting styles characterized by more control and punitiveness. At high levels of such parenting practices, males who are higher on agreeableness, conscientiousness, and openness were more likely to experience internalized distress. One possible explanation for this pattern is that punitive measures used on agreeable, reliable, and open adolescents may lead to a state of cognitive dissonance for the adolescent. For the adolescent who may be seen as normally "good," harsh forms of discipline and higher control attempts by parents may seem unwarranted to the adolescent. As such, anxiety or depression seems more likely to develop.

In addition to the pervasive influence of agreeableness, conscientiousness, and openness as moderators, neuroticism also showed interesting moderating effects. The most pronounced finding in the data suggested that males higher on neuroticism were

more likely to develop internalizing and externalizing difficulties at higher levels of paternal support. Because neuroticism is a measure of the susceptibility to psychological distress, ability to control impulses, and capability to deal with stress (Costa & McCrae, 1992), males scoring higher on this dimension would be expected to be more likely to develop problems. Adolescents more susceptible to problems (i.e., higher on neuroticism) may be less affected by positive parenting techniques such as support and involvement. In this study, males lower on neuroticism were much less likely to have problems. The psychological explanation of low scores on neuroticism may make the most theoretical sense. Those lower on neuroticism would be expected to have fewer problems at high levels of parental support compared to males with high neuroticism scores. It was for those lower on neuroticism that the most pronounced effects occurred, depending on the level of paternal support and paternal punishment.

For high levels of paternal control and punishment variables, males low on neuroticism were more likely to experience problems compared to more neurotic males. This pattern is more difficult to explain. According to Costa and McCrae (1992), low scores on neuroticism are indicative of emotionally stable, calm, and even-tempered individuals. These people should be better able to cope with adverse situations, such as excessive parental control or punishment. However, the results of the present study contraindicate arriving at this kind of conclusion. Perhaps adolescents who are more prone to experiencing negative emotions (high neuroticism) are, somehow, less affected

by negative parenting strategies.

The Impact of Parental Physical and Verbal Punishment

The results of the present study suggest that punitive parenting is an important aspect to consider in the socialization of adolescents. Physical and verbal punishment were consistently found to be important risk factors across problem behaviors. Gecas and Seff (1990) noted that previous research has shown that parents believe adolescence is one of the most stressful periods of child development with which to cope. Increased independence and the concomitant parental loss of control over the adolescent's life were two reasons given to explain the increased feeling of parental stress. Parents who have more difficulty relinquishing control over their children may attempt to exercise increased control and more punitive measures as the adolescent tries to individuate. As the adolescent tries harder to pull away from the parental influence, more problems are likely to manifest. The results of this study support this notion. A further consideration is the combined influence of parental conflict and the use of harsh punishments. In the case of parents in conflict, harsh punishment has been found to be employed more, with the result being more criminal activity in sons (see McCord, 1991).

The Importance of Paternal Variables in Predicting Problem Behaviors

Another important pattern found in the present study is the importance of the role of the father in the life of male adolescents. Forehand and Nousiainen (1993) discovered

that parenting by fathers had a significant impact on adolescent school functioning, social competence and internalizing difficulties. These authors also noted that paternal support was important in predicting adolescent social competence and internalizing problems through its interaction with high levels of maternal support, suggesting that paternal involvement can directly and indirectly influence adolescent psychosocial development. Grizenko and Fisher (1993) also found that a positive relationship with fathers protected adolescents from developing internalizing problems. The results reported in the present study reinforce the notion that paternal parenting styles are important in predicting adolescent psychopathology, especially in males.

In their extensive review of the literature examining the role of fathers in the etiology of adolescent problems, Phares and Compas (1992) unveiled a significant shortcoming in developmental research. Out of the 577 studies they examined, these authors found that only 1% studied the impact of paternal variables alone. In the present study, paternal control, physical punishment, and verbal punishment were consistently found to be important risk factors in predicting externalizing behaviors in sons. In considering the moderating influence of openness, paternal reasoning was an important predictor of externalizing behaviors in sons. Numerous other studies have alluded to the importance of paternal variables in predicting conduct disorder, delinquency, suicidal behavior, anxiety, obsessive-compulsive disorders, schizophrenia, and eating disorders (for a review, see Phares & Compas, 1992). Furthermore, Nelson

and Simmerer (1984) found that fathers' parenting was associated with children's temperament and that paternal involvement and reasoning were associated with children's behavioral adaptability and decreased emotional intensity. These results and those of the present study suggest that further research into adolescent pathologies needs to consider, exclusively, the impact of paternal parenting styles on adolescent children.

The Importance of Moderated Relationships

Overall, the results of the present study point to the importance of moderated models in the prediction of adolescent pathologies. Although it is beyond the scope of this research, it is important to note the distinction between moderated and mediated effects. Moderated relationships are those that allow one to state that the direction or strength of the relationship between an independent (predictor) and dependent (criterion) variable changes at varying levels of a third (moderator) variable (Baron & Kenny, 1986). In mediated models, the third variable speaks to how or why a relationship between independent and dependent variables occurs (Baron & Kenny, 1986). In the present study, a moderating influence of adolescent personality was found for the relationship between parenting styles (predictor) and problems (criterion). That is, the relationship between parenting and problems changes at varying levels of adolescent personality. Conversely, mediated models would explain the present results in terms of parenting styles influencing personality which, in turn, causes changes in problem behaviors.

As mentioned earlier, moderated relationships are often examined when the simple relationships between predictor and criterion variables are weak or inconsistent (Baron & Kenny, 1986). Because of the inability to infer cause and effect from simple correlations, moderator variables assist clinical and experimental psychologists derive more meaning from the sometimes ambiguous meaning embedded in bivariate relationships. Maccoby (1992) noted that previous theories of parent-child interaction focused on parental characteristics as the primary socializing agent for children. More recently, the emphasis has switched to parent-child reciprocity models that posit the behavior of parents and children influence one another. Stice and Barrera (1995) pointed out that a reciprocal effects model explanation of correlations between parenting and outcomes in children and adolescents suggests this kind of bidirectional influence. That is, one is not able to say with any confidence that a given parenting style 'causes' adolescent problems or that problems influence the type of parenting strategy employed. Herein lies the utility of the moderator variable. Although moderated relationships can not explain the causal relationship between parenting and problems, moderators can help uncover some of the intricacies hidden within simple, bivariate relationships. The present study is case and point.

Factor Analyses

Previous research has demonstrated the importance of parental support and control in predicting problems. However, as Lamborn et al. (1991) pointed out, the

combined effects of these variables, a style called affectionless control, has not been thoroughly researched. Given these findings, the present authors computed a factor score for the angle bisecting the quadrant of the cartesian space formed by the negative pole of the parental support dimension and the positive pole of the control dimension. This was calculated in order to permit a more precise investigation of the relationship between an affectionless control style of parenting and adolescent problems. However, the results indicated that, for this construct, the effects were no greater than for the separate effects for parental support and control. For this reason, findings based on this construct were not reported in the present study.

Similarly, factor scores were computed for a supportive control construct, as well as the two additional factors found based on the participants' responses to the PBI. None of these factors yielded a number of effect sizes large enough to warrant their inclusion in this study. Although some did reach effect sizes equal to or greater than .15, they did not contribute to the understanding of the patterns reported above or provide support for any unique patterns.

Significance Testing

The present study did not report results in a manner congruent with that of traditional statistical techniques because of an abundance of limitations inherent to statistical testing procedures. First, in an attempt to control for Type I errors, statistical techniques often fail to hold the potential for Type II errors at an acceptable level. This

problem could retard the development of cumulative knowledge in the social sciences (Schmidt, 1996). In an exploratory study such as the present investigation, the use of effect sizes and confidence intervals in place of traditional statistical significance testing reduces the possibility of overlooking important patterns (i.e., making a Type II error in an attempt to satisfy the more stringent and often misleading criteria of significance testing).

As Schmidt (1996) has pointed out, significance levels are indicative not of the size or importance of findings, but only the probability that the results obtained occur by chance. Thompson (1989) stated that "too many researchers confuse the issues of statistical significance, result importance, and result generalizability" (p. 66). In a related vein, Shaver (1993) demonstrated that, with a large enough sample, researchers can find significant results for miniscule correlations. For example, he showed that a correlation of .02 is significant at the .05 level when n=10,000. Clearly, a correlation so close to zero is trivial. Conversely, very small sample sizes make finding significant results difficult, even though important patterns may exist. In the case of the present study, sample size considerations would have influenced the results if traditional statistical methods had been used. It would have been more likely to find significant results based on the female sample (N=282) compared to the male sample (N=152). An examination of the tables of partial correlations (Tables 11-20) demonstrates that the largest effect sizes and most consistent patterns do not exist for female adolescents. Using traditional methods,

smaller, less important effect sizes in the female data would have become equated in 'importance' with the larger effect sizes in the male data. For these reasons, the present authors chose to examine effect sizes and overall patterns in the data, while discounting the relevance of significance levels.

Limitations and Directions for Future Study

Steinberg (1987) examined the impact of the age of the adolescent on the development of delinquency. He found that different parenting characteristics can lead to delinquency depending on the age of the adolescent. For example, excessive parental permissiveness was hypothesized to be the primary antecedent to early adolescent delinquency while less than adequate parental vigilance was posited to precede delinquency in middle adolescence. Although the present study did not specifically address age differences with the group of adolescent participants, this is an important consideration in trying to explain the results.

The present study relied on the participants' reports of their own qualities and behaviors, as well as the behavior of their parents. One concern regarding self-report data centers around the mental health of the informant. Those individuals who are neurotic or depressed are more likely to monitor negative events, interpret benign situations and actions as negative, and misattribute negative characteristics to others (see Beck, 1976). In the case of adolescents in the present investigation, this may have impacted on their

ability to accurately discern parental styles. Mak (1994) suggested that maladjusted adolescents may attempt to rationalize their behavior by purposely depicting their parents in an unfavorable light. No a priori correlations between neuroticism scores and negative perceptions of parents were calculated to consider this possibility. In order to redress this shortcoming, multiple sources of information regarding the parent-child relationship should be investigated in future research.

Another way to address this issue would be to use a clinical comparison group. Future research should examine the differences in moderated relationships in clinical inpatient and outpatient programs. This will be another step toward making psychological sense out of the more ambiguous correlational data. In addition, the use of clinical assessments of problems could be a further improvement over the use of self-report data in clinical and nonclinical samples.

In defence of the use of self-report data, Battistich, Assor, Messe, and Aronoff (1985) asserted that the object person's degree of hedonic relevance to the perceiver will determine the accuracy of person perception. That is, accurate person percetion is more likely to occur when the target person and perceiver are involved in some kind of relationship. Alternatively, if the target person has little "hedonic relevance" to the perceiver, accurate perception of the target's attributes is likely to be compromised. Moreover, Rogers, Kuiper, and Kirker (1977) postulated that information relevant to the self and self-evaluation is more readily perceived, encoded, and retrieved from memory.

In accordance with such findings, the self- and parent-reports provided by the adolescent participants in the present study can be reasonably assumed to reflect a 'true' account of parental and adolescent behavior.

The university students in this study were instructed to recall their own and their parents' behavior during adolescence. The retrospective nature of this data may have provided divergent results compared to the less retrospective data provided by high school students. Peterson and Rollins (1987) asserted that when subjects are required to recall and rate several dimensions of parent and child behavior as an aggregate across a number of situations (i.e., asked to provide an 'overall' rating), the reliability of the data may be compromised.

Because this was the first comprehensive study examining the moderating role of adolescent personality characteristics on the relationship between parenting styles and problem behaviors, convenience samples were used in order to increase the sample size. In using this approach to sampling, adolescents experiencing more serious problems may have participated less or disclosed less compared to well-adjusted adolescents. This could result in skewed samples and restricted ranges, thereby reducing the effect sizes. However, the results of the present study are encouraging.

The present results also lend themselves to another intriguing question. If the independent variables were switched and the dependent variable became parenting style, could adolescent problems interact with adolescent personality to predict parenting?

This, too, is a plausible research question. Together with the results of the present study, answers to such questions could be of some clinical importance in the area of family therapy and could also add to the understanding of reciprocal effects models.

Conclusions

The results of the present study indicated that adolescent personality characteristics sometimes exert a moderating influence on the relationship between parenting styles and problem behaviors. Future research should consider these effects from a developmental perspective, examining variations in these relationships as a function of early, middle, and late adolescence. Another consideration for future research in this area would be to examine the combined predictive power of parenting variables and multiple personality characteristics in predicting problem behaviors. Until such investigations are completed, the present study represents the first step toward a more thorough understanding of the relationship between parenting styles and adolescent problem behaviors.

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Appendix A

Participant's Consent Form

We are from Lakehead University and we would very much appreciate your help in a study we are conducting. It involves completing a questionnaire, and should take about 30 minutes. The purpose of the study is to examine the relationships between parenting styles and the behavior of adolescents. The study has been approved by the Ethics Committee of Lakehead University. No deception is involved, and there are no risks. Your contributions will remain completely confidential and you are free to withdraw at any time. You are also free to inquire about the results once the data have been analyzed. If you agree to let us use your responses confidentially, please sign below.

I consent to take part in the above study on the relationship between parenting style and behavior of adolescents. I understand that there are no direct benefits to me for participating in the study, and that there are no risks. My responses will remain completely anonymous and confidential. I understand that this consent form will be kept separate from my questionnaire responses; that no one but the researchers will be given access to my responses; and that I will never be individually identified on the basis of my responses. My participation in the study was completely voluntary and I may withdraw at any time. I have also been told that I may obtain a copy of the final results from Dr. Brian O'Connor or Troy Dvorak, Department of Psychology, Lakehead University, Thunder Bay, Ontario, P7B 5E1, 343-8322.

Signature:_____

Name Printed:_____

Date:_____

THANKS FOR YOUR HELP!

Dear Parent,

I am a professor at Lakehead University and I am writing to request your permission to ask your son or daughter if he/she would like to participate in a study that I am conducting with my research assistant, Troy Dvorak. The purpose of the study is to examine the relationship between parenting styles and the corresponding behavior of adolescents. In this study your son or daughter will be asked to complete a questionnaire, which should take approximately 30 minutes. They may be able to complete their portion of the questionnaire during class time, or they may complete it at home.

The study has been approved by the Research Ethics Committee of Lakehead University; by the Lakehead Board of Education; and by the school principal. Students will be informed of the nature of the study and will be asked if they would like to participate. No deception is involved, and there are no risks associated with this research. There are also no personal benefits for you or your son or daughter for participating in the study. All contributions will remain completely confidential and participants will be told beforehand that they are free to withdraw at any time. They will be told not to give their names, as names are not required on the questionnaires. This consent form will be kept separate from your son or daughter's questionnaire responses; no one but the researchers will be given access to your son or daughter's responses; and your son or daughter will never be individually identified on the basis of his/her responses. Participants are also free to inquire about the results once the data have been analyzed. The study is concerned only with general patterns of parent/child interaction, and a given person's responses are meaningful only in relation to the responses of other participants.

Please sign below, indicating whether or not you are willing to let your son or daughter participate in the study. Should you have any questions, please feel free to contact me. I can be reached at 343-8322. Thank you very much.

Sincerely,

Brian O'Connor, Ph.D.

I permit / do not permit my son or daughter to participate in the study. (Circle your choice)

Name of the son or daughter:_____

Signed:_____
(signature of parent or guardian)

Parenting Styles and Adolescent Behavior

The purpose of this study is to examine the relationships between styles of parenting behavior on the one hand, and adolescent behavior and experiences on the other. We are seeking to clarify and refine the results of previous research. The study involves completing a survey consisting of questions from standard tests. A single individual's responses to the questions are meaningful only in their statistical relationship to the responses of other persons. This means that no conclusions can be drawn about the responses of individual participants. Although some of the questions deal with problem behaviors, responses are placed on continuums of scores and people are not categorized into groups. Your responses are therefore not "test results" and cannot be used as the basis of any kind of diagnosis. However, if you are personally concerned with your parent-child relationship or with other issues that may have arisen as a result of responding to the survey, feel free to contact Dr. Brian O'Connor or Troy Dvorak at the Department of Psychology, Lakehead University, 955 Oliver Road, Thunder Bay, Ontario, P7B 5E1, 807-343-8441 for referral information, or you may directly contact any of the following people/organizations:

Lakehead Regional Family Centre 343-5000

Psychologists/Psychiatrists or other Counselors: See the yellow pages of the phone book.

The Minister of your Church

Appendix B

Questionnaire

There are no good or bad answers to any of the questions below. Please just give the most accurate, truthful response. Your responses will remain anonymous and confidential. If you find any of the questions too personal, you do not have to respond, although it would be most helpful to us if you answered every question.

Gender: Male Female

Birth Date: month _____day_____year_____

Grade/Year Level:_____

How many other children (i.e., brothers and sisters) are there in your family? _____

What is your birth order (i.e., 1st born, 2nd born, etc.) I was my mother's _____ child.

Were you adopted? yes no If "yes," at what age? _____ years

How would you describe your performance in school?
____ failing ____ below average ____ average ____ above average

What is your mother's highest educational degree?
____ elementary school ____ high school ____ college ____ university

Does your mother have a job? yes no If "yes," what does your mother do? _____

What is your father's highest educational degree?
____ elementary school ____ high school ____ college ____ university

Does your father have a job? yes no If "yes," what does your father do? _____

Who do you live with? Use a check mark to indicate all the people you live with.

____ my mother	____ a stepmother	____ other adult relatives
____ my father	____ a stepfather	____ friends
____ foster parent(s)	____ brother(s)	____ sister(s)
____ other (please specify)		

Are both your parents alive? yes no

If "no," indicate which parent died & your age when they died. _____

Are your parents divorced? yes no

If "yes," how old were you when they divorced? ____ years

The following pages contain statements that can be used to describe personality characteristics, attitudes, feelings and behaviors. Do not be concerned if a few statements seem unusual--they are included to describe a wide variety of people. Try to be as honest and serious as you can in your responses. Using the 1-8 scale below, please rate the accuracy each statement by placing the appropriate number on the dash beside each statement.

1	2	3	4	5	6	7	8
extremely inaccurate	very inaccurate	quite inaccurate	slightly inaccurate	slightly accurate	quite accurate	very accurate	extremely accurate

____ I am talkative
____ I am energetic
____ I am withdrawn
____ I am sympathetic
____ I am cooperative
____ I am rude
____ I am neat with my things
____ I am practical
____ I am not very efficient
____ I am emotional
____ I am jealous
____ I am creative
____ I am a deep-thinking person
____ I am touchy

____ I am extroverted
____ I am quiet
____ I am shy
____ I am kind
____ I am cold
____ I am harsh
____ I am self-disciplined
____ I am disorganized
____ I am careless
____ I am relaxed
____ I am temperamental
____ I am imaginative
____ I am complex

____ I am bold
____ I am bashful
____ I am irritable
____ I am warm
____ I am a helpful person
____ I am not very intellectual
____ I am systematic
____ I am sloppy
____ I am an innovative thinker
____ I am moody
____ I am envious
____ I am philosophical
____ I am artistic

____ I get nervous when things do not go the right way for me.
____ Others seem to do things easier than I can.
____ I worry a lot of the time.
____ I worry about what my parents will say to me.
____ I feel that others do not like the way I do things.
____ I worry about what other people think about me.
____ I feel alone even when there are people with me.
____ My hands feel sweaty.
____ I worry about what is going to happen.
____ My feelings get hurt easily when I am fussed at.
____ I feel someone will tell me I do things the wrong way.
____ It is hard for me to keep my mind on schoolwork.
____ I wiggle in my seat a lot.
____ I often worry about something bad happening to me.

____ I have trouble making up my mind.
____ Often I have trouble getting my breath.
____ I am afraid of a lot of things.
____ I get mad easily.
____ It is hard for me to get to sleep at night.
____ Often I feel sick to my stomach.
____ My feelings get hurt easily.
____ I am tired a lot.
____ Other people are happier than I am.
____ I have bad dreams.
____ I wake up scared some of the time.
____ I worry when I go to bed at night.
____ I am nervous.
____ A lot of people are against me.

____ I look ugly.
____ I feel alone all the time.
____ I never have fun at school.
____ I do not want to be with people at all.
____ I cannot make up my mind about things.
____ Things bother me all the time.
____ I never do what I'm told.
____ Most days I do not feel like eating.
____ I feel like crying every day.
____ Nobody really loves me.
____ All bad things are my fault.

____ I do everything wrong.
____ I am sure terrible things will happen to me.
____ I have trouble sleeping every night.
____ Nothing will ever work out for me.
____ I am sad all the time.
____ I am bad all the time.
____ I worry about aches and pains all the time.
____ I can never be as good as others.
____ I do not have any friends.
____ I hate myself.
____ I am tired all the time.

1	2	3	4	5	6	7	8
extremely inaccurate	very inaccurate	quite inaccurate	slightly inaccurate	slightly accurate	quite accurate	very accurate	extremely accurate

____ I have to push myself all the time to do my schoolwork.
____ I do very badly in subjects I used to be good in.
____ Nothing is fun at all.
____ I get into fights all the time.

____ On the whole, I am satisfied with myself.
____ I feel that I have a number of good qualities.
____ I feel I do not have much to be proud of.
____ I wish I could have more respect for myself.
____ I take a positive attitude toward myself.
____ At times I think I am no good at all.
____ I am able to do things as well as most other people.
____ I certainly feel useless at times.
____ All in all, I'm inclined to feel that I am a failure.
____ I feel that I'm a person of worth, at least on an equal plane with others.

____ I keep from getting involved with others.
____ I don't get along with other people.
____ I am not liked by other people.
____ I would rather be with younger people than with people my own age.
____ I am too dependent on adults.
____ I get teased a lot.
____ I am poorly coordinated or clumsy.

____ I can't get my mind off certain thoughts.
____ I see things that other people think aren't there.
____ I have thoughts that other people would think are strange.
____ I do things other people think are strange.
____ I hear sounds or voices that other people think aren't there.
____ I store objects I don't need.
____ I repeat certain actions over and over.

____ I act too young for my age.
____ I act without stopping to think.
____ I have trouble concentrating.
____ I have trouble sitting still.
____ I daydream a lot.
____ I am nervous or tense.
____ My school work is poor.
____ I feel confused or in a fog.

____ I don't feel guilty after doing something I shouldn't.
____ I hang around with people who get in trouble.
____ I use alcohol or drugs for nonmedical purposes.
____ I steal at home.
____ I swear or use dirty language.
____ I would rather be with older people than with people my own age.
____ I set fires.
____ I run away from home.
____ I lie or cheat.
____ I steal from places other than home.
____ I cut classes or skip school.

____ I argue a lot.
____ I brag.
____ I try to get a lot of attention.
____ I destroy my own things.
____ I destroy things belonging to others.
____ I disobey at school.
____ I am jealous of others.
____ I get in many fights.
____ My moods or feelings change suddenly.
____ I am louder than other people.
____ I scream a lot.
____ I am mean to others.
____ I show off or clown.
____ I physically attack people.
____ I am stubborn.
____ I talk too much.
____ I tease others a lot.
____ I have a hot temper.
____ I threaten to hurt people.

Questions About Your Mother Figure

Please rate the accuracy of the next statements about your mother using the same scale. Your ratings should be based on how your mother has generally acted towards you. If you have a stepmother or some other maternal-type situation, your answers should be based on whichever mother-type person has been most important to you.

1	2	3	4	5	6	7	8
extremely inaccurate	very inaccurate	quite inaccurate	slightly inaccurate	slightly accurate	quite accurate	very accurate	extremely accurate

____ My mother speaks to me with a warm and friendly voice.
____ My mother lets me do those things I like doing.
____ My mother tends to baby me.
____ My mother likes me to make my own decisions.
____ My mother tries to control everything I do.
____ My mother enjoys talking things over with me.
____ My mother lets me decide things for myself.
____ My mother can make me feel better when I am upset.
____ My mother tries to make me dependent on her.
____ My mother gives me as much freedom as I want.
____ My mother does not help me as much as I need her to.
____ My mother feels I can not look after myself unless she is around.
____ My mother appears to understand my problems and worries.
____ My mother does not seem to understand what I need or want.
____ My mother often spanks, slaps, or hits me when I do something wrong.
____ When punishing me, my mother often hits me with a belt, paddle, or something else.
____ My mother yells and screams at me.
____ My mother swears at me.
____ My mother says mean things to me.
____ My mother always gives me reasons for her decisions.
____ When I don't understand why my mother makes a rule for me to follow, she explains the reasons to me.
____ My mother disciplines me by reasoning, explaining, or talking to me.
____ My mother shares many activities with me.
____ My mother enjoys doing things with me.
____ My mother spends little time with me.
____ I have considerable opportunity to make my own decisions, but my mother has the final word.
____ I can make my own decisions but my mother likes for me to consider her opinion.
____ My mother just tells me what to do and expects me to obey.
____ My mother sets clear and firm rules for my behavior, and tries to understand and talk with me when there is a problem.
____ My mother is overprotective of me.
____ My mother seems emotionally cold to me.
____ My mother is affectionate to me.
____ My mother does not want me to grow up.
____ My mother invades my privacy.
____ My mother frequently smiles at me.
____ My mother makes me feel I'm not wanted.
____ My mother does not talk with me very much.
____ My mother lets me dress in any way I please.
____ My mother lets me go out as often as I want.
____ My mother does not praise me.

Questions About Your Father Figure

Please rate the accuracy of the next statements about your father using the same scale. Your ratings should be based on how your father has generally acted towards you. If you have a stepfather or some other paternal-type situation, your answers should be based on whichever father-type person has been most important to you.

1	2	3	4	5	6	7	8
extremely inaccurate	very inaccurate	quite inaccurate	slightly inaccurate	slightly accurate	quite accurate	very accurate	extremely accurate

____ My father speaks to me with a warm and friendly voice.
____ My father lets me do those things I like doing.
____ My father tends to baby me.
____ My father likes me to make my own decisions.
____ My father tries to control everything I do.
____ My father enjoys talking things over with me.
____ My father lets me decide things for myself.
____ My father can make me feel better when I am upset.
____ My father tries to make me dependent on him.
____ My father gives me as much freedom as I want.
____ My father does not help me as much as I need him to.
____ My father is overprotective of me.
____ My father seems emotionally cold to me.
____ My father is affectionate to me.
____ My father does not want me to grow up.
____ My father invades my privacy.
____ My father frequently smiles at me.
____ My father makes me feel I'm not wanted.
____ My father does not talk with me very much.
____ My father lets me dress in any way I please.
____ My father lets me go out as often as I want.
____ My father does not praise me.
____ My father feels I can not look after myself unless he is around.
____ My father appears to understand my problems and worries.
____ My father does not seem to understand what I need or want.
____ My father often spanks, slaps, or hits me when I do something wrong.
____ When punishing me, my father often hits me with a belt, paddle, or something else.
____ My father yells and screams at me.
____ My father swears at me.
____ My father says mean things to me.
____ My father always gives me reasons for his decisions.
____ When I don't understand why my father makes a rule for me to follow, he explains the reasons to me.
____ My father disciplines me by reasoning, explaining, or talking to me.
____ My father shares many activities with me.
____ My father enjoys doing things with me.
____ My father spends little time with me.
____ I have considerable opportunity to make my own decisions, but my father has the final word.
____ I can make my own decisions but my father likes for me to consider his opinion.
____ My father just tells me what to do and expects me to obey.
____ My father sets clear and firm rules for my behavior, and tries to understand and talk with me when there is a problem.
____ When my parents tell me to stop doing something and I don't stop, I always get punished.
____ My parents punish me for something at one time, and then at other times don't punish me when I do the same thing.
____ When my parents punish me, the kind of punishment depends on their mood.
____ My parents disagree about when and how to punish me.
____ My parents know where I go at night.
____ My parents know where I am most afternoons after school.
____ My parents know how I spend my money.
____ My parents know what I do with my free time.
____ My parents know who my friends are.

Appendix C

Problem Behaviors

Revised Children's Manifest Anxiety Scale

I get nervous when things do not go the right way for me.
Others seem to do things easier than I can.
I worry a lot of the time.
I worry about what my parents will say to me.
I feel that others do not like the way I do things.
I worry about what other people think about me.
I feel alone even when there are people with me.
My hands feel sweaty.
I worry about what is going to happen.
My feelings get hurt easily when I am fussed at.
I feel someone will tell me I do things the wrong way.
It is hard for me to keep my mind on schoolwork.
I wiggle in my seat a lot.
I often worry about something bad happening to me.
I have trouble making up my mind
Often I have trouble getting my breath.
I am afraid of a lot of things.
I get mad easily.
It is hard for me to get to sleep at night.
Often I feel sick to my stomach.
My feelings get hurt easily.
I am tired a lot.
Other people are happier than I am.
I have bad dreams.
I wake up scared some of the time.
I worry when I go to bed at night.
I am nervous.
A lot of people are against me.

Child Depression Inventory

I look ugly.
I feel alone all the time.
I never have fun at school.
I do not want to be with people at all.
I cannot make up my mind about things.
Things bother me all the time.
I never do what I'm told.
Most days I do not feel like eating.
I feel like crying every day.
Nobody really loves me.
All bad things are my fault.
I have to push myself all the time to do my schoolwork.
I do very badly in subjects I used to be good in.
I do everything wrong.
I am sure terrible things will happen to me.
I have trouble sleeping every night.
Nothing will ever work out for me.
I am sad all the time.
I am bad all the time.
I worry about aches and pains all the time.
I can never be as good as others.
I do not have any friends.
I hate myself.
I am tired all the time.
Nothing is fun at all.
I get into fights all the time.

Child Behavior Checklist

Social Problems

I keep from getting involved with others.
I don't get along with other people.
I am not liked by other people.
I would rather be with younger people than with people my own age.
I act too young for my age.
I am too dependent on adults.
I get teased a lot.
I am poorly coordinated or clumsy.

Thought Problems

I can't get my mind off certain thoughts.
I see things that other people think aren't there.
I have thoughts that other people would think are strange.
I hear sounds or voices that other people think aren't there.
I store objects I don't need.
I repeat certain actions over and over.
I do things other people think are strange.

Attention Problems

I act too young for my age.
I act without stopping to think.
I am poorly coordinated or clumsy.
My school work is poor.
I feel confused or in a fog.
I daydream a lot.
I am nervous or tense.
I have trouble concentrating.
I have trouble sitting still.

Delinquent Behavior

I don't feel guilty after doing something I shouldn't.
I hang around with people who get in trouble.
I use alcohol or drugs for nonmedical purposes.
I steal at home.
I swear or use dirty language.
I would rather be with older people than with my own age.
I set fires.
I run away from home.
I lie or cheat.
I steal from places other than home.
I cut classes or skip school.

Aggressive Behavior

I argue a lot.
I brag.
I try to get a lot of attention.
I destroy my own things.
I destroy things belonging to others.
I disobey at school.
I am jealous of others.
I get in many fights.
My moods or feelings change suddenly.
I am louder than other people.
I scream a lot.
I am mean to others.
I show off or clown.
I physically attack people.
I am stubborn.
I talk too much.
I tease others a lot.
I have a hot temper.
I threaten to hurt people.

Parenting Styles

Parental Bonding Instrument

Support (Care)

My mother...

speaks to me with a warm and friendly voice.
can make me feel better when I am upset.
appears to understand my problems and worries.
does not seem to understand what I need or want
makes me feel I'm not wanted.
does not praise me.
enjoys talking things over with me.
does not help me as much as I need her to.
is affectionate to me.
frequently smiles at me.
does not talk with me very much.
seems emotionally cold to me.

Control (Overprotection)

My mother...

lets me do those things I like doing.
likes me to make my own decisions.
lets me decide things for myself.
gives me as much freedom as I want.
does not want me to grow up.
lets me dress in any way I please.
feels I can not look after myself unless she is around.
tends to baby me.
tries to control everything I do.
tries to make me dependent on her.
is overprotective of me.
invades my privacy.
lets me go out as often as I want.

Physical Punishment

My mother often spanks, slaps, or hits me when I do something wrong.
When punishing me, my mother often hits me with a belt, paddle, or something else.

Verbal Punishment

My mother yells and screams at me.
My mother says mean things to me.
My mother swears at me.

Consistency of Discipline

When my parents tell me to stop doing something and I don't stop, I always get punished.
My parents punish me for something one time, and then at other times don't punish me when I do the same thing.
When my parents punish me, the kind of punishment depends on their mood.
My parents disagree about when and how to punish me.

Reasoning

My mother always gives me reasons for her decisions.
When I don't understand why my mother makes a rule for me to follow, she explains the reasons to me.
My mother disciplines me by reasoning, explaining, and talking to me.

Involvement

My mother shares many activities with me.
My mother enjoys doing things with me.
My mother spends little time with me.

Monitoring

My parents know where I go at night.
My parents know what I do with my free time.
My parents know where I am most afternoons after school.
My parents know how I spend my money.
My parents know who my friends are.

Adolescent Personality

Extraversion

I am talkative.	I am extraverted.	I am bold.
I am energetic.	I am quiet.	I am bashful.
I am withdrawn.	I am shy.	

Agreeableness

I am sympathetic.	I am kind.	I am warm.
I am cooperative.	I am cold.	I am a helpful person.
I am rude.	I am harsh.	

Conscientiousness

I am neat with my things.	I am self-disciplined.	I am systematic.
I am practical.	I am disorganized.	I am sloppy.
I am not very efficient.	I am careless.	

Neuroticism

I am emotional.	I am relaxed.	I am moody.
I am jealous.	I am temperamental.	I am envious.
I am touchy.	I am irritable.	

Openness

I am not very intellectual.	I am creative.	I am imaginative.
I am an innovative thinker.	I am philosophical.	I am complex.
I am a deep thinking person.	I am artistic.	

Table 1

Baumrind's Typology of Parental Child-Rearing Styles

Parenting Style	Description
Authoritative	- inductive control attempts - discipline is supportive - clear standards for conduct - parental support
Authoritarian	- high level of coercive control - obedience and status oriented - monitor kids' activities carefully - low support
Permissive	- low control attempts - low maturity demands - lenient/avoid confrontation - high support

Table 2

Correlational Studies Examining the Relationship Between Parental Support and Control and Various Measures of Adolescent Behavior

Study	Sample	Outcome Variable Measured	Correlation with Parental Control	Correlation with Parental Support
Barber & Thomas (1986)	527 college students	self-esteem	maternal cntl of female .41** paternal cntl of female .29** maternal cntl of male .32** paternal cntl of male .24**	maternal support of female .27** paternal support of female .34** maternal support of male .26** paternal support of male .20**
Barber, Olsen, & Shagle (1994)	422 adolescents	internalizing problems externalizing problems	behavioral cntl -.16* psychological cntl .20** behavioral cntl -.50** psychological cntl .01^{ns}	n/a
deMan, Labreche-Gauthier, & Leduc (1993)	558 highschool students	suicidal ideation	-.14**	maternal support -.32** paternal support -.30**
Eastburg & Johnson (1990)	56 college females	social reticence (shyness)	maternal cntl .26* paternal cntl .22^{ns}	maternal support -.32* paternal support -.13^{ns}
Fauber, Forehand, Thomas, & Wierson (1990)	97 triads of adolescents, their mothers, and one of their teachers	internalizing problems	psychological cntl .49^{sr} behavioral cntl .14^{sr}	n/a
Gecas (1971)	620 adolescents ages 16 & 17	self-esteem	cntl of female .04^{ns} cntl of male .15^{ns}	support of female .46*** support of male .37***
Gecas & Schwalbe (1986)	128 adolescents and their mothers and fathers	self-esteem	maternal cntl .13^{ns} paternal cntl .16^{ns}	maternal support .24* paternal support .24*

Table 2

continued

Growe (1980)	123 5th & 6th grade students	self-esteem	maternal cntl of female $-.30^{*}$ maternal cntl of male $.19^{ns}$ paternal cntl of female $-.13^{ns}$ paternal cntl of male $.11^{ns}$	maternal support of female $.39^{**}$ maternal support of male $.46^{**}$ paternal support of female $.18^{ns}$ paternal support of male $.43^{**}$
Kurdek & Fine (1994)	1120 grade 6&7 students	social competence self-esteem	$.18^{**}$ $-.21^{**}$	$.44^{**}$ $-.25^{**}$
Mak (1994)	405 male & 387 female grade 8-12 students	delinquency	maternal cntl of female $.20^{***}$ paternal cntl of female $.19^{***}$ maternal cntl of male $.14^{**}$ paternal cntl of male $.09^{*}$	maternal support of female $-.28^{***}$ paternal support of female $-.22^{***}$ maternal support of male $-.25^{***}$ paternal support of male $-.16^{***}$
Nielsen & Metha (1994)	119 highschool students ages 14-17	competence	maternal cntl of female $-.52^{***}$ maternal cntl of male $-.03^{ns}$ paternal cntl of female $-.49^{***}$ paternal cntl of male $-.14^{ns}$	maternal support of female $.41^{***}$ maternal support of male $-.07^{ns}$ paternal support of female $.50^{***}$ paternal support of male $-.08^{ns}$
Parish & McCluskey (1992)	123 college students	self-concept	maternal cntl $.04^{ns}$ paternal cntl $-.05^{ns}$	maternal support $.21^{***}$ paternal support $.32^{***}$
Richman & Flaherty (1987)	211 first year med students	depression self-esteem	maternal cntl $.31^{**}$ paternal cntl $.21^{*}$ maternal cntl $.07^{ns}$ paternal cntl $.14^{ns}$	maternal support $-.14^{ns}$ paternal support $-.20^{*}$ maternal support $.17^{*}$ paternal support $.23^{**}$
Stice, Barrera, & Chassin (1993)	454 adolescent children of alcoholics	externalizing problems	$-.42^{***}$	$-.42^{***}$
Zemore & Rinholm (1989)	95 17-21 year old university students	depression proneness	maternal cntl of female $.47^{**}$ maternal cntl of male $.27^{ns}$ paternal cntl of female $.34^{*}$ paternal cntl of male $.06^{ns}$	maternal support of female $-.32^{*}$ maternal support of male $-.25^{ns}$ paternal support of female $-.10^{ns}$ paternal support of male $-.50^{**}$

N.B: ^{ns} = not significant; ^{nr} = not reported; * = .05; ** = .01; *** = .001

Table 3

Description of the Sample by Grade and Gender

Grade in School	Males	Females	Total by Grade
Seven	2	0	2
Eight	0	0	0
Nine	10	17	27
Ten	19	44	63
Eleven	36	81	117
Twelve	30	50	80
Ontario Academic Credits (OAC's)	13	28	41
University	42	62	104
***Total N**	**152**	**282**	**434**

* The total sample size was 449 for the present study. Five of the university participants and ten of the secondary school participants failed to identify their gender.

Table 4

Reliability Coefficients for the Personality, Problem Behaviors, and Parenting Styles Scales

Scale	Self-Report		Report of Mother's Behavior		Report of Father's Behavior	
	Males	Females	Males	Females	Males	Females
Extraversion	.72	.81				
Agreeableness	.77	.78				
Conscientiousness	.68	.76				
Neuroticism	.66	.71				
Openness	.70	.79				
Depression	.90	.93				
Anxiety	.90	.92				
Social Problems	.68	.69				
Thought Problems	.80	.80				
Attention Problems	.78	.79				
Delinquent Behaviors	.86	.79				
Aggressive Behaviors	.91	.89				
Support			.89	.93	.83	.94
Control			.80	.84	.85	.86
Physical Punishment			.81	.79	.91	.80
Verbal Punishment			.88	.88	.87	.88
Reasoning			.84	.85	.86	.89
Involvement			.74	.82	.73	.83

	Adolescents' Report of Parental Behavior	
	Males	Females
Parental Consistency	.62	.68
Parental Monitoring	.85	.86

Table 5

Descriptive Statistics for Ratings of Parents

		Males		Females	
		Mean	S. D.	Mean	S. D.
Support	**Maternal**	5.86	1.32	5.82	1.56
	Paternal	5.43	1.25	5.16	1.77
Control	**Maternal**	3.36	1.15	3.37	1.20
	Paternal	2.89	1.20	3.26	1.26
Physical Punishment	**Maternal**	1.64	1.40	1.60	1.43
	Paternal	1.76	1.61	1.44	1.15
Verbal Punishment	**Maternal**	2.72	1.92	2.97	2.08
	Paternal	2.80	1.93	2.96	2.14
Reasoning	**Maternal**	4.87	1.93	5.02	1.92
	Paternal	4.70	1.99	4.48	2.10
Involvement	**Maternal**	5.13	1.67	5.25	1.84
	Paternal	5.43	1.65	4.63	2.03
Parental Consistency		5.44	1.43	5.13	1.53
Parental Monitoring		5.53	1.65	5.66	1.67

Note: Given the eight point Likert scale used in the present study, the minimum mean score is 1 and the maximum mean score is 8.

Table 6

Descriptive Statistics for Personality Self-Ratings

Personality Variables		Mean	Standard Deviation
Extraversion	**Males**	5.30	0.97
	Females	5.31	0.95
Agreeableness	**Males**	6.03	0.92
	Females	6.42	0.80
Conscientiousness	**Males**	5.38	0.98
	Females	5.51	1.05
Neuroticism	**Males**	4.09	0.99
	Females	4.65	1.01
Openness	**Males**	5.63	1.00
	Females	5.50	1.09

Note: Given the eight point Likert scale used in the present study, the minimum mean score is 1 and the maximum mean score is 8.

Table 7

Descriptive Statistics for Behavior Problems

Problems		Mean	Standard Deviation
Anxiety	**Males**	3.47	1.00
	Females	4.08	1.16
Depression	**Males**	2.36	0.89
	Females	2.75	1.11
Social Problems	**Males**	2.67	1.00
	Females	2.50	0.95
Thought Problems	**Males**	3.59	1.44
	Females	3.80	1.46
Attention Problems	**Males**	3.45	1.23
	Females	3.72	1.22
Delinquent Behaviors	**Males**	3.29	1.35
	Females	2.95	1.11
Aggressive Behaviors	**Males**	3.12	1.26
	Females	3.02	1.10

Note: Given the eight point Likert scale used in the present study, the minimum mean score is 1 and the maximum mean score is 8.

Table 8

Pearson Correlations Among Parental Variables

Maternal

	Support	Control	Physical Punishment	Verbal Punishment	Reasoning	Involvement	Consistency	Monitoring
Support	1.00	0.00	-.39	-.61	.63	.78	.22	.42
Control		1.00	.26	.29	-.24	-.13	-.29	-.06
Physical Punishment			1.00	.56	-.33	-.34	-.20	-.16
Verbal Punishment				1.00	-.44	-.55	-.35	-.30
Reasoning					1.00	.64	.14	.38
Involvement						1.00	.22	.45
Consistency							1.00	.18
Monitoring								1.00

Paternal

	Support	Control	Physical Punishment	Verbal Punishment	Reasoning	Involvement	Consistency	Monitoring
Support	1.00	0.00	-.30	-.54	.67	.71	.14	.34
Control		1.00	.31	.31	-.19	-.19	-.26	-.09
Physical Punishment			1.00	.45	-.20	-.16	-.28	-.23
Verbal Punishment				1.00	-.44	-.44	-.38	-.26
Reasoning					1.00	.57	.04	.35
Involvement						1.00	.13	.30
Consistency							1.00	.18
Monitoring								1.00

Table 9

Pearson Correlations Among Problem Behavior Scales

Males

	Anxiety	Depression	Social Problems	Thought Problems	Attentions Problems	Delinquent Behavior	Aggressive Behavior
Anxiety	1.00	.72	.61	.52	.63	.31	.39
Depression		1.00	.61	.45	.62	.51	.46
Social Problems			1.00	.48	.52	.22	.28
Thought Problems				1.00	.58	.50	.48
Attention Problems					1.00	.50	.54
Delinquent Behavior						1.00	.66
Aggressive Behavior							1.00

Females

	Anxiety	Depression	Social Problems	Thought Problems	Attentions Problems	Delinquent Behavior	Aggressive Behavior
Anxiety	1.00	.76	.42	.48	.66	.31	.47
Depression		1.00	.49	.47	.67	.44	.51
Social Problems			1.00	.29	.55	.24	.38
Thought Problems				1.00	.62	.42	.58
Attention Problems					1.00	.46	.56
Delinquent Behavior						1.00	.66
Aggressive Behavior							1.00

Table 10

Pearson Correlations Among Personality Scales

Males	**Extraversion**	**Agreeableness**	**Conscientiousness**	**Neuroticism**	**Openness**
Extraversion	1.00	.00	.03	.04	.04
Agreeableness		1.00	.41	-.02	.18
Conscientiousness			1.00	-.15	.16
Neuroticism				1.00	-.04
Openness					1.00
Females	**Extraversion**	**Agreeableness**	**Conscientiousness**	**Neuroticism**	**Openness**
Extraversion	1.00	.05	-.04	-.12	.08
Agreeableness		1.00	.36	-.32	.10
Conscientiousness			1.00	-.24	.06
Neuroticism				1.00	-.02
Openness					1.00

Table 11

Pearson Correlations Between Parenting Styles and Problem Behaviors

	Depression		Anxiety		Social Problems		Thought Problems		Attention Problems		Delinquent Behavior		Aggressive Behavior	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Support														
Maternal	-.31	-.44	-.20	-.31	-.20	-.21	-.14	-.27	-.26	-.31	-.30	-.36	-.15	-.38
Paternal	-.29	-.39	-.31	-.28	-.24	-.17	-.28	-.25	-.28	-.30	-.31	-.25	-.25	-.26
Control														
Maternal	.23	.28	.22	.23	.10	.17	.17	.13	.14	.28	.21	.25	.11	.25
Paternal	.31	.22	.15	.24	.20	.14	.13	.06	.20	.28	.31	.21	.24	.19
Physical Punishment														
Maternal	.09	.18	.31	.26	.10	.19	.04	.17	.21	.10	.37	.16	.37	.26
Paternal	.07	.15	.24	.27	.19	.23	.17	.08	.18	.14	.37	.23	.38	.19
Verbal Punishment														
Maternal	.17	.27	.27	.35	.09	.17	.18	.30	.17	.29	.42	.40	.29	.47
Paternal	.24	.30	.31	.35	.19	.20	.35	.27	.31	.24	.45	.34	.44	.36
Reasoning														
Maternal	.04	-.16	-.03	-.23	.03	-.05	.08	-.19	.04	-.17	-.07	-.30	.04	-.32
Paternal	-.10	-.15	-.12	-.19	-.04	.01	-.15	-.18	-.13	-.16	-.24	-.14	-.16	-.20
Involvement														
Maternal	-.11	-.24	-.16	-.34	-.14	-.18	-.10	-.21	-.10	-.26	-.29	-.34	-.09	-.31
Paternal	-.18	-.27	-.26	-.36	-.17	-.11	-.16	-.23	-.14	-.25	-.32	-.22	-.06	-.30
Parental Consistency	-.35	-.19	-.36	-.26	-.30	-.26	-.36	-.25	-.41	-.26	-.31	-.25	-.29	-.28
Parental Monitoring	-.03	-.25	-.15	-.36	-.06	-.07	-.20	-.30	-.24	-.29	-.39	-.51	-.20	-.39

Note: For males, correlations greater than +/- .17 and +/- .21 are significant at the .05 and .01 levels, respectively. For females, correlations greater than +/- .13 and +/- .15 are significant at the .05 and .01 levels, respectively.

Table 12

Pearson Correlations Between Personality and Problem Behaviors

Males:	**Extraversion**	**Agreeableness**	**Conscientiousness**	**Neuroticism**	**Openness**
Depression	-.27	-.24	-.29	.34	-.03
Anxiety	-.24	-.07	-.14	.53	-.02
Social Problems	-.35	-.16	-.19	.15	.09
Thought Problems	-.09	-.11	-.20	.30	.26
Attention Problems	-.07	-.23	-.40	.28	.01
Delinquent Behaviors	-.01	-.46	-.42	.24	.03
Aggressive Behaviors	.20	-.44	-.31	.37	.07
Females:	**Extroversion**	**Agreeableness**	**Conscientiousness**	**Neuroticism**	**Openness**
Depression	-.24	-.33	-.38	.45	-.12
Anxiety	-.27	-.22	-.34	.63	-.07
Social Problems	-.21	-.27	-.33	.22	-.05
Thought Problems	.01	-.22	-.32	.38	.22
Attention Problems	-.07	-.20	-.50	.36	-.04
Delinquent Behaviors	.11	-.49	-.38	.34	-.02
Aggressive Behaviors	.21	-.45	-.37	.51	.01

Note: For males, correlations greater than +/- .16 and +/- .20 are significant at the .05 and .01 levels, respectively. For females, correlations greater than +/- .12 and +/- .18 are significant at the .05 and .01 levels, respectively.

Table 13

Peason Correlations Between Parenting Styles and Personality

	Extraversion		Agreeableness		Conscientiousness		Neuroticism		Openness	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
Support										
Maternal	.21	.09	.16	.30	.22	.25	-.02	-.22	.09	-.07
Paternal	.09	.04	.24	.13	.39	.17	-.02	-.16	-.07	.01
Control										
Maternal	-.01	-.04	-.01	-.09	-.07	-.20	.16	.12	.02	-.08
Paternal	-.05	.02	-.25	-.13	-.26	-.32	.04	.16	.10	-.06
Physical Punishment										
Maternal	-.04	-.11	-.25	-.18	-.19	-.06	.03	.15	-.02	.00
Paternal	-.02	-.07	-.16	-.24	-.24	-.12	-.08	.10	.11	.02
Verbal Punishment										
Maternal	-.10	-.03	-.18	-.29	-.16	-.19	.12	.15	-.01	.08
Paternal	-.03	-.04	-.34	-.22	-.29	-.18	.12	.22	-.03	.04
Reasoning										
Maternal	.14	-.01	.15	.24	.21	.19	.06	-.20	.15	-.06
Paternal	-.03	-.09	.27	.14	.34	.23	-.07	-.10	.11	-.03
Involvement										
Maternal	.17	.06	.21	.28	.28	.24	.04	-.20	.10	-.10
Paternal	.21	.02	.20	.13	.31	.16	-.04	-.19	.01	-.01
Parental Consistency	.08	.03	.06	.15	.17	.28	-.21	-.11	-.18	-.12
Parental Monitoring	.01	.01	.26	.32	.39	.26	.08	-.20	.01	-.08

Note: For males, correlations greater than +/- .16 and +/- .21 are significant at the .05 and .01 levels, respectively. For females, correlations greater than +/- .12 and +/- .15 are significant at the .05 and .01 levels, respectively.

Table 14

Partial Correlations for the Interaction Between Male Extroversion and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	-.03	-.05	-.06	.06	-.08	.03	-.08
	father	.14	**.16**	-.00	.11	.08	.09	-.06
Control	mother	-.09	**-.16**	-.09	.01	**-.23**	.04	-.03
	father	-.07	-.02	.12	-.03	.05	.08	.08
Physical Punishment	mother	.04	**.15**	**.18**	-.01	**.19**	.13	.07
	father	-.03	-.01	.04	-.02	.06	.07	**.22**
Verbal Punishment	mother	.08	.09	.12	.11	.04	.11	**.16**
	father	-.05	-.01	.08	.13	.14	.07	**.20**
Reasoning	mother	-.05	-.01	-.02	.01	-.02	.04	-.05
	father	-.04	-.05	-.07	-.06	-.11	-.05	-.14
Involvement	mother	-.05	-.01	-.00	.04	-.04	.03	-.03
	father	.03	-.03	.02	.06	-.07	-.12	-.10
Parental Consistency		.14	.08	-.05	-.03	.08	-.05	-.05
Parental Monitoring		.03	.06	-.08	.02	-.03	.05	-.13

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .14 and +/- .19 are significant at the .05 and .01 levels, respectively.

Table 15

Partial Correlations for the Interaction Between Female Extroversion and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	-.11	.04	-.01	-.07	-.00	-.02	-.12
	father	.03	.06	**.15**	.03	.08	.08	.04
Control	mother	.05	.06	.01	.05	.06	.04	.06
	father	.03	.05	.08	.14	.10	.13	.08
Physical Punishment	mother	.06	-.01	.03	.09	.04	.01	.09
	father	-.06	-.11	.07	.03	.00	-.02	-.03
Verbal Punishment	mother	**.15**	.02	-.01	.06	.08	.08	.11
	father	-.12	-.10	**-.15**	-.00	-.06	-.02	-.04
Reasoning	mother	**-.18**	-.08	-.06	-.12	-.09	-.06	-.08
	father	-.09	-.11	-.01	-.12	-.05	**-.18**	-.09
Involvement	mother	-.09	.04	-.02	-.05	-.03	-.02	-.07
	father	.01	.06	.11	.06	.14	.09	.09
Parental Consistency		.01	.05	.05	-.02	.05	.05	-.01
Parental Monitoring		**-.15**	-.07	.03	-.07	-.04	-.09	-.12

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .10 and +/- .15 are significant at the .05 and .01 levels, respectively.

Table 16

Partial Correlations for the Interaction Between Male Agreeableness and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	**-.27**	-.11	-.01	-.11	-.02	-.12	-.09
	father	-.05	-.02	.13	.01	.10	.12	.06
Control	mother	.00	.06	.11	.05	.01	.10	-.14
	father	**.17**	.07	.09	-.01	-.06	**-.22**	**-.34**
Physical Punishment	mother	.12	.05	-.06	-.07	**-.15**	-.12	**-.23**
	father	**.17**	.03	.06	.04	-.11	**-.22**	**-.20**
Verbal Punishment	mother	**.20**	.03	-.03	.01	-.08	.01	-.12
	father	.13	.06	.06	.02	-.04	-.13	**-.21**
Reasoning	mother	**-.23**	**-.18**	-.05	-.14	-.13	**-.28**	**-.23**
	father	-.12	-.08	.02	-.03	-.00	-.02	-.02
Involvement	mother	**-.21**	-.12	.05	-.12	-.05	-.09	-.06
	father	-.11	-.08	.03	.06	.10	**.18**	.11
Parental Consistency		**-.17**	-.07	-.05	-.05	.02	.10	**.28**
Parental Monitoring		**-.16**	-.02	.06	-.14	.04	.02	-.10

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .14 and +/- .19 are significant at the .05 and .01 levels, respectively.

Table 17

Partial Correlations for the Interaction Between Female Agreeableness and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	.02	-.05	-.06	-.04	-.03	-.01	-.06
	father	.07	.12	.06	-.01	.03	.08	-.03
Control	mother	-.08	-.10	.00	-.05	-.01	-.04	-.05
	father	-.04	.01	-.03	-.01	.01	-.06	-.14
Physical Punishment	mother	-.05	.02	.09	.07	.03	-.06	.02
	father	.04	.08	.01	-.02	.06	-.02	-.07
Verbal Punishment	mother	-.10	-.03	.05	-.05	-.03	-.09	-.10
	father	-.03	-.01	.00	-.05	-.01	**-.17**	-.10
Reasoning	mother	.01	-.04	-.13	-.10	-.08	-.04	**-.17**
	father	-.02	.01	-.03	-.02	-.01	-.02	-.05
Involvement	mother	.09	.01	-.08	.01	.02	-.02	-.05
	father	.10	.04	.02	.05	.03	.06	.00
Parental Consistency		**.15**	**.15**	.01	.08	.13	.09	.10
Parental Monitoring		.00	-.00	-.05	-.03	-.04	.01	-.01

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .10 and +/- .15 are significant at the .05 and .01 levels, respectively.

Table 18

Partial Correlations for the Interaction Between Male Conscientiousness and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	-.01	-.02	-.02	.00	.09	.05	.04
	father	-.10	-.02	-.00	.05	.09	.10	.02
Control	mother	-.07	-.07	-.05	-.00	-.04	.03	-.04
	father	**.16**	.07	.04	.07	-.01	**-.21**	-.13
Physical Punishment	mother	.13	.05	-.05	-.08	-.08	**-.20**	**-.21**
	father	.14	.02	-.06	-.03	**-.19**	**-.15**	**-.18**
Verbal Punishment	mother	-.02	-.04	-.06	-.08	-.14	-.13	**-.20**
	father	**.23**	.08	**.16**	.07	-.05	**-.19**	-.10
Reasoning	mother	-.05	-.07	-.07	-.06	.04	-.06	-.03
	father	**-.15**	-.08	-.11	-.02	-.00	.07	-.00
Involvement	mother	-.01	.02	.03	.06	.07	.08	-.00
	father	-.12	-.03	-.12	.08	.02	.09	-.08
Parental Consistency		**-.19**	-.01	.02	.01	.06	.07	.02
Parental Monitoring		-.11	-.11	.03	-.01	-.02	.01	-.03

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .14 and +/- .19 are significant at the .05 and .01 levels, respectively.

Table 19

Partial Correlations for the Interaction Between Female Conscientiousness and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	-.01	-.02	-.03	-.03	.02	.07	.06
	father	-.04	-.10	-.06	-.11	-.03	-.04	-.06
Control	mother	.05	.01	.06	-.06	-.04	-.04	-.01
	father	.00	-.05	.05	-.04	-.03	-.05	-.09
Physical Punishment	mother	-.04	.00	-.01	.07	-.04	-.09	-.07
	father	.07	.13	-.06	.01	.05	.04	-.07
Verbal Punishment	mother	-.01	-.02	.06	.02	.00	-.10	-.04
	father	.10	.08	.07	.09	.09	-.00	.02
Reasoning	mother	.01	.01	-.07	-.04	-.00	.03	-.02
	father	-.12	-.13	-.09	-.11	-.11	-.07	-.09
Involvement	mother	-.02	.03	-.04	-.07	.02	.14	.10
	father	-.04	-.05	-.05	-.07	-.04	.00	-.04
Parental Consistency		-.05	-.01	-.10	.10	.06	.07	.08
Parental Monitoring		-.01	.04	-.03	-.05	.01	.12	.07

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .10 and +/- .15 are significant at the .05 and .01 levels, respectively.

Table 20

Partial Correlations for the Interaction Between Male Neuroticism and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	-.07	.03	.06	.01	.02	**.16**	.14
	father	.12	**.29**	.13	.08	**.23**	**.30**	**.21**
Control	mother	**.19**	.10	.10	.09	.06	.03	.13
	father	-.02	-.09	.04	.05	**-.17**	**-.21**	**-.24**
Physical Punishment	mother	-.05	-.06	-.07	-.05	**-.16**	**-.15**	-.11
	father	-.08	-.08	-.02	-.03	**-.16**	**-.20**	-.14
Verbal Punishment	mother	.04	.00	-.14	-.05	-.09	-.10	-.09
	father	-.09	-.14	-.10	.06	-.09	**-.24**	-.06
Reasoning	mother	.03	**.15**	.11	.02	-.02	.03	-.02
	father	.06	**.17**	.07	-.06	.12	.14	.04
Involvement	mother	**-.17**	-.03	-.03	-.06	-.08	.12	.03
	father	.06	.02	.03	-.05	.08	.10	.05
Parental Consistency		-.06	.03	-.06	-.02	**.19**	**.28**	**.22**
Parental Monitoring		-.05	.09	.06	-.02	.09	**.24**	**.16**

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .14 and +/- .19 are significant at the .05 and .01 levels, respectively.

Table 21

Partial Correlations for the Interaction Between Female Neuroticism and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	.04	-.02	.02	.06	.14	-.01	-.09
	father	-.00	-.01	-.06	.10	.12	.04	-.03
Control	mother	.04	.09	.08	.03	.05	.09	**.15**
	father	-.03	.00	.05	-.10	-.07	.05	.06
Physical Punishment	mother	.03	.10	.05	-.00	.03	.14	.12
	father	-.03	-.02	.01	-.07	-.08	-.03	.06
Verbal Punishment	mother	-.03	.07	.02	-.08	-.06	.14	.12
	father	-.07	-.03	.08	-.10	**-.16**	-.00	.05
Reasoning	mother	-.02	-.08	-.03	-.01	.03	-.05	**-.18**
	father	-.02	.03	.02	.09	.12	.08	-.00
Involvement	mother	-.03	-.09	-.01	.03	.07	-.08	-.14
	father	-.08	-.09	-.05	.07	.05	.00	-.06
Parental Consistency		.12	-.02	.01	.10	.10	-.05	-.05
Parental Monitoring		-.02	-.07	.03	-.03	.00	-.08	**-.16**

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .10 and +/- .15 are significant at the .05 and .01 levels, respectively.

Table 22

Partial Correlations for the Interaction Between Male Openness and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	-.12	-.07	-.13	-.04	**-.18**	-.07	**-.19**
	father	-.05	.02	.00	.00	-.10	-.08	-.08
Control	mother	.11	.04	.11	.12	.03	-.07	-.08
	father	-.05	.06	.07	.01	-.01	.04	**-.17**
Physical Punishment	mother	.02	.01	-.04	-.10	.04	-.01	.10
	father	.12	.07	.13	.10	**.15**	.05	-.04
Verbal Punishment	mother	-.03	-.08	.02	-.04	-.02	-.13	.07
	father	.09	**.19**	.13	**.16**	**.18**	.10	.04
Reasoning	mother	**-.22**	-.11	-.08	**-.16**	**-.19**	**-.18**	**-.19**
	father	-.06	-.13	-.07	-.13	**-.20**	**-.22**	**-.18**
Involvement	mother	**-.15**	-.05	-.08	-.04	-.14	.00	**-.16**
	father	.03	-.06	-.01	.04	-.09	-.03	-.00
Parental Consistency		-.02	-.06	-.04	-.05	.03	.10	.10
Parental Monitoring		-.06	-.02	-.02	-.14	-.08	-.02	**-.19**

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .14 and +/- .19 are significant at the .05 and .01 levels, respectively.

Table 23

Partial Correlations for the Interaction Between Female Openness and Parent Variables

		Anxiety	Depression	Social Problems	Thought Problems	Attention Problems	Delinquent Behaviors	Aggressive Behaviors
Support	mother	.01	.06	-.02	-.01	-.03	-.10	.01
	father	-.07	-.03	.01	.02	-.02	.12	.09
Control	mother	-.02	-.12	.02	-.06	-.08	-.08	-.06
	father	-.04	-.02	.08	.03	-.07	.09	.11
Physical Punishment	mother	-.10	-.11	-.11	-.01	-.06	-.09	-.07
	father	.08	.11	-.06	-.00	.08	-.01	.02
Verbal Punishment	mother	-.03	-.06	.05	-.00	.05	-.03	-.04
	father	.01	-.01	-.05	-.07	-.03	-.13	-.10
Reasoning	mother	-.00	.07	-.06	-.02	.01	.00	.01
	father	-.06	-.03	-.09	-.05	-.06	.02	-.02
Involvement	mother	-.02	.02	-.03	-.06	-.05	-.06	.01
	father	-.09	-.03	.01	-.00	-.05	.05	.09
Parental Consistency		-.05	-.01	-.02	-.05	.01	.07	-.00
Parental Monitoring		.04	-.11	.04	-.01	.02	.04	.13

Note: Partial correlations greater than .15 are in boldface type. Partial correlations greater than or equal to +/- .10 and +/- .15 are significant at the .05 and .01 levels, respectively.

Table 24

Simple Slopes for Partial Correlation Effect Sizes Greater Than or Equal to .15

Sex	Moderator	Parent Variables	Problem Behavior	Level of Moderator			Partial Correl.
				Below	Mean	Above	
Males	Extraversion	pat. support	depression	-.28	-.13	.01	.16
		mat. control		.31	.16	.01	-.16
		mat. physical punishment		.16	.29	.42	.15
		maternal physical punishment	social	-.08	.07	.23	.18
		mat. control	attention	.28	.07	-.14	-.23
		mat. physical punishment		.02	.19	.37	.19
		pat. physical punishment	aggression	.18	.36	.54	.22
		mat. verbal punishment		.19	.33	.47	.16
		pat. verbal punishment		.32	.45	.58	.20
Females	Extraversion	mat. verbal punishment	anxiety	.12	.26	.40	.15
		mat. reasoning		-.04	-.17	-.34	-.18
		monitoring		-.10	-.23	-.37	-.15
		pat. support	social	-.31	-.16	-.02	.15
		pat. verbal punishment		.33	.19	.05	-.15
		mat. reasoning	delinquency	.07	-.12	-.30	-.18
Males	Agreeableness	mat. support	anxiety	.15	-.08	-.31	-.27
		pat. control		.02	.16	.30	.17
		pat. physical punishment		.03	.12	.24	.17
		mat. verbal punishment		-.02	.15	.33	.20
		mat. reasoning		.32	.08	-.17	-.23

Table 24 continued

Sex	Moderator	Parent Variables	Problem Behavior	Level of Moderator: Below	Mean	Above	Partial Correl.
Males	Agreeableness	mat. involvement		.16	-.06	-.27	-.21
		consistency		-.21	-.35	-.50	-.17
		monitoring		.11	-.03	-.16	-.16
		mat. reasoning	depression	.21	.03	-.15	-.18
		mat. physical punishment	attention	.19	.09	.02	-.15
		pat. control	delinquency	.33	.18	.02	-.22
		pat. physical punishment		.37	.24	.11	-.22
		mat. reasoning		.29	.03	-.24	-.28
		pat. involvement		-.50	-.31	-.12	.18
		pat. control	aggression	.39	.14	-.11	-.34
		mat. physical punishment		.31	.18	.06	-.23
		pat. physical punishment		.38	.26	.14	-.20
		pat. verbal punishment		.47	.30	.14	-.21
		mat. reasoning		.36	.14	-.09	-.23
		consistency		-.47	-.24	-.01	.28
Females	Agreeableness	consistency	anxiety	-.30	-.17	-.04	.15
		consistency	depression	-.34	-.21	-.09	.15
		pat. verbal punishment	delinquency	.34	.22	.10	-.17
		mat. reasoning	aggression	-.09	-.22	-.35	-.17
Males	Conscientiousness	pat. control	anxiety	.03	.18	.34	.16
		pat. verbal punishment		.03	.28	.52	.23
		pat. reasoning		.07	-.08	-.23	-.15
		consistency		-.16	-.33	-.51	-.19
		pat. verbal punishment	social problems	.02	.19	.36	.16

Table 24 continued

Sex	Moderator	Parent Variables	Problem Behavior	Level of Moderator: Below	Mean	Above	Partial Correl.
Males	Conscientiousness	pat. physical punishment	attention problems	.17	-.02	-.21	-.19
		pat. control	delinquency	.35	.17	-.02	-.21
		mat. physical punishment		.37	.21	.05	-.20
		pat. physical punishment		.35	.20	.05	-.15
		pat. verbal punishment		.50	.32	.13	-.19
		mat. physical punishment	aggression	.39	.22	.05	-.21
		pat. physical punishment		.40	.22	.04	-.18
		mat. verbal punishment		.45	.23	.00	-.20
Females	Conscientiousness	N/A	N/A	N/A	N/A	N/A	N/A
Males	Neuroticism	mat. control	anxiety	-.09	.08	.26	.19
		mat. involvement		-.01	-.14	-.27	-.17
		pat. support	depression	-.34	-.08	.18	.29
		mat. reasoning		-.16	-.02	.12	.15
		pat. reasoning		-.23	-.07	.08	.17
		pat. support	attention problems	-.36	-.15	.06	.23
		pat. control		.32	.16	-.00	-.17
		mat. physical punishment		.31	.19	.08	-.16
		pat. physical punishment		.28	.16	.03	-.16
		consistency		-.55	-.37	-.19	.19
		mat. support	delinquency	-.37	-.25	-.13	.16
		pat. support		-.45	-.17	.10	.30
		pat. control		.44	.25	.06	-.21
		mat. physical punishment		.46	.35	.25	-.15
		pat. physical punishment		.49	.33	.17	-.20

Table 24 continued

Sex	Moderator	Parent Variables	Problem Behavior	Level of Moderator: Below	Mean	Above	Partial Correl.
Males	Neuroticism	pat. verbal punishment		.59	.41	.19	-.24
		consistency		-.56	-.28	-.01	.28
		monitoring		-.54	-.35	-.16	.24
		pat. support	aggression	-.31	-.12	.06	.21
		pat. control		.42	.20	-.01	-.24
		consistency		-.43	-.23	-.03	.22
		monitoring		-.32	-.18	-.05	.16
Females	Neuroticism	pat. verbal punishment	attention problems	.33	.19	.05	-.16
		mat. control	aggression	.02	.14	.26	.15
		mat. reasoning		-.08	-.22	-.36	-.18
		monitoring		-.18	-.29	-.41	-.16
Males	Openness	mat. reasoning	anxiety	.28	.05	-.17	-.22
		mat. involvement		.07	-.08	-.23	-.15
		pat. verbal punishment	depression	.12	.29	.46	.19
		pat. verbal punishment	thought problems	.21	.34	.47	.16
		mat. reasoning		.21	.05	-.11	-.16
		mat. support	attention problems	-.04	-.21	-.38	-.18
		pat. physical punishment		-.00	.14	.29	.15
		pat. verbal punishment		.14	.30	.45	.18
		mat. reasoning		.24	.05	-.14	-.19
		pat. reasoning		.10	-.10	-.29	-.20
		mat. reasoning	delinquency	.11	-.07	-.24	-.18
		pat. reasoning		-.01	-.22	-.42	-.22
		mat. support	aggression	.08	-.11	-.30	-.19
		pat. control		.42	.27	.13	-.17
		mat. reasoning		.23	.04	-.14	-.19

Table 24 continued

Sex	Moderator	Parent Variables	Problem Behavior	Level of Moderator			Partial Correl.
				Below	Mean	Above	
Males	Openness	pat. reasoning		.02	-.15	-.31	-.18
		mat. involvement		.09	-.07	-.24	-.16
		monitoring		.04	-.15	-.34	-.19
Females	Openness	N/A	N/A	N/A	N/A	N/A	N/A

Table 25

Confidence Intervals (80% and 95%) for Pearson and Partial Correlations

N=152

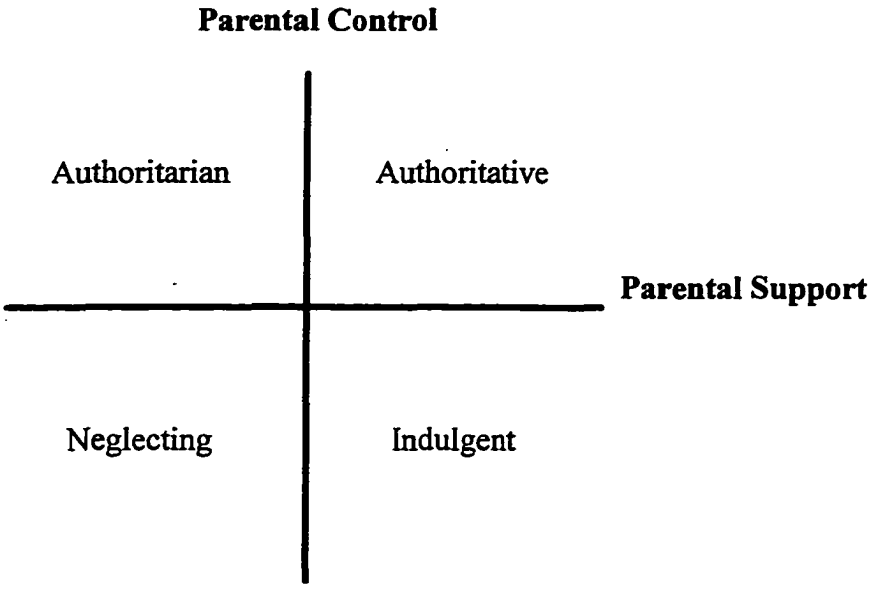
	Pearson Correlations				Partial Correlations			
	80%		95%		80%		95%	
Correlation:	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi
.050	-.05	.15	-.11	.21	-.11	.21	-.11	.21
.100	.00	.20	-.06	.26	-.06	.26	-.06	.26
.150	.05	.25	-.01	.30	-.01	.30	-.01	.30
.200	.10	.30	.04	.35	.04	.35	.04	.35
.250	.15	.35	.09	.39	.09	.39	.09	.39
.300	.20	.39	.15	.44	.15	.44	.15	.44
.350	.25	.44	.20	.48	.20	.48	.20	.48
.400	.31	.48	.26	.53	.26	.53	.26	.53
.450	.36	.53	.31	.57	.31	.57	.31	.57
.500	.42	.57	.37	.61	.37	.61	.37	.61

N=282

	Pearson Correlations				Partial Correlations			
	80%		95%		80%		95%	
Correlation:	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi
.050	-.03	.13	-.07	.17	-.07	.17	-.07	.17
.100	.02	.18	-.02	.21	-.02	.21	-.02	.21
.150	.07	.22	.03	.26	.03	.26	.03	.26
.200	.13	.27	.09	.31	.08	.31	.08	.31
.250	.18	.32	.14	.36	.14	.36	.14	.36
.300	.23	.37	.19	.40	.19	.40	.19	.40
.350	.28	.42	.24	.45	.24	.45	.24	.45
.400	.33	.46	.30	.49	.30	.49	.30	.49
.450	.39	.51	.35	.54	.35	.54	.35	.54
.500	.44	.56	.41	.58	.41	.58	.41	.58

Figure 1

Four Parenting Styles - Combining the Dimensions of Parental Support and Control.

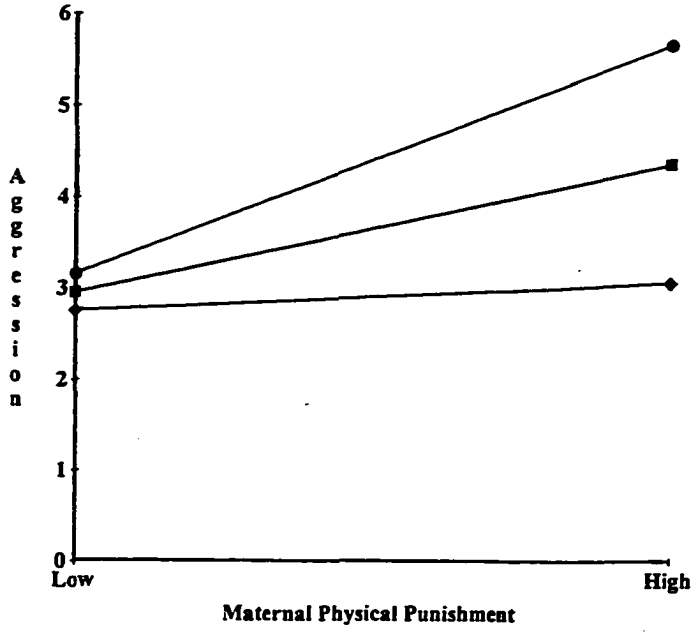


N.B.: *Authoritarian* = high control and low support; *Authoritative* = high control and high support; *Indulgent* = low control and high support; *Neglecting* = low control and low support

Figure 2

Male Agreeableness and Conscientiousness as Moderators of the Relationship Between Parenting Styles and Externalizing Problems

a)



b)

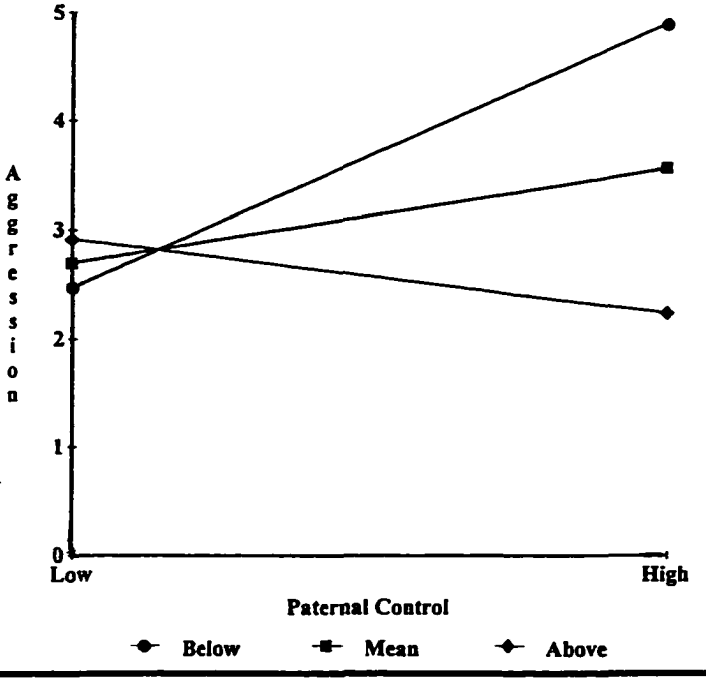
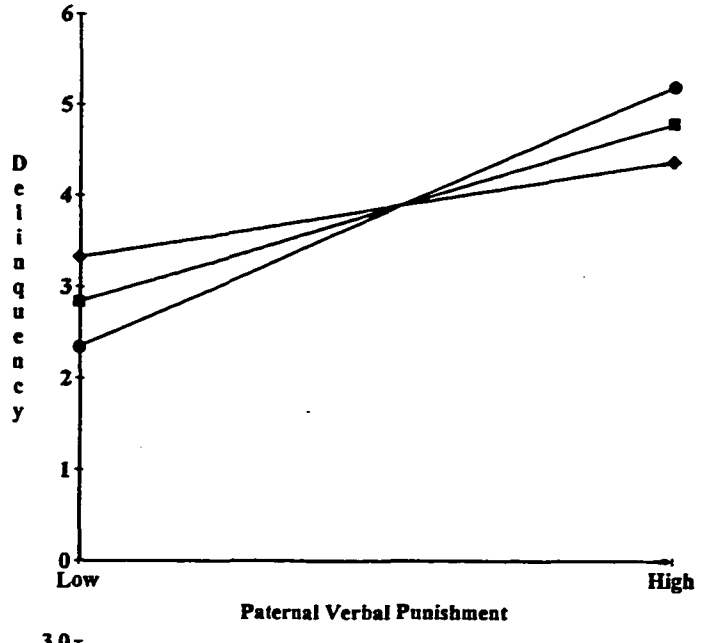


Figure 3

Male Neuroticism as a Moderator of the Relationship Between Paternal Parenting Variables and a Range of Problem Behaviors

a)



b)

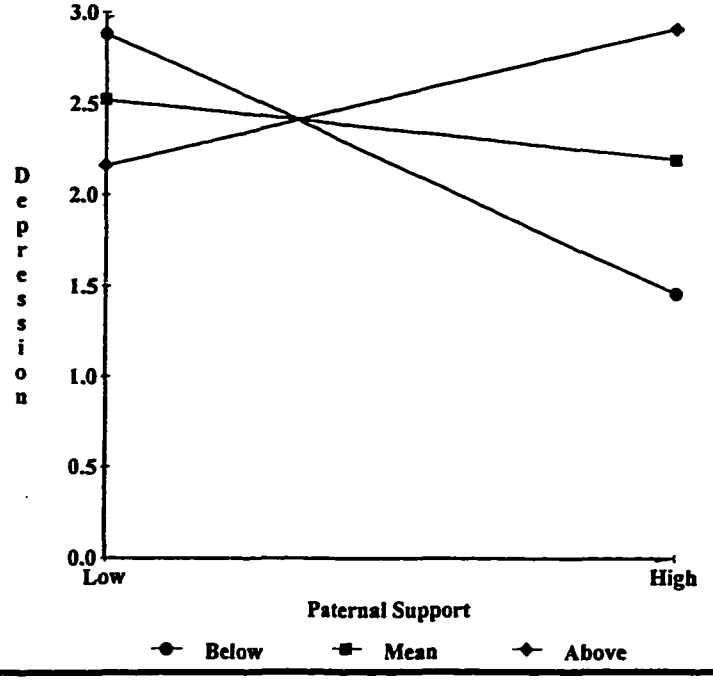
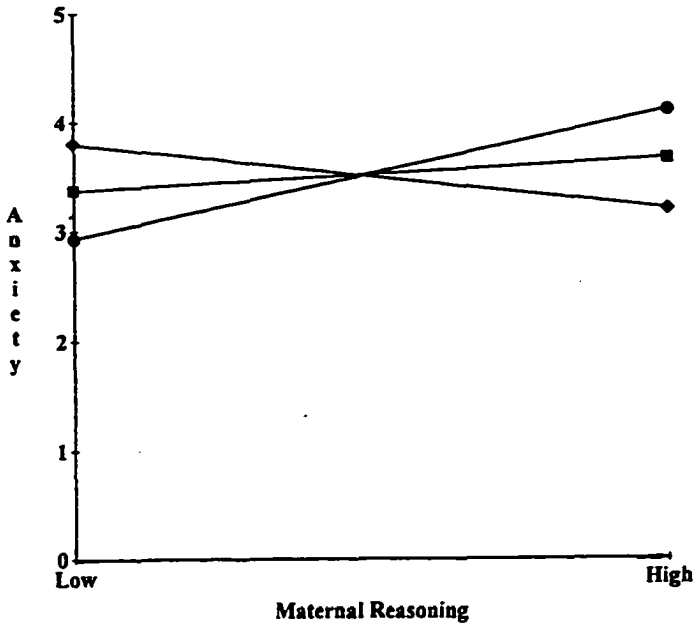


Figure 4

Male Agreeableness and Openness as Moderators of the Relationship Between Parental Reasoning and a Range of Problem Behaviors

a)



b)

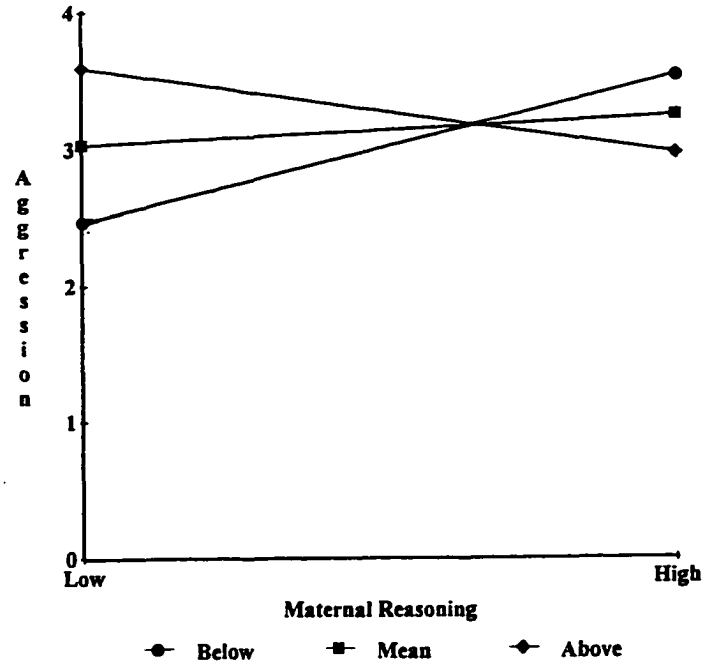


Figure 4 continued

c)

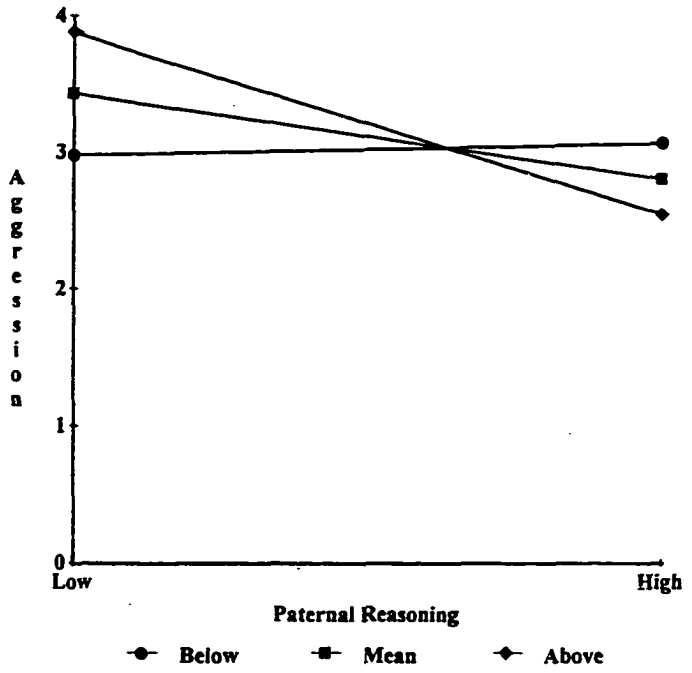
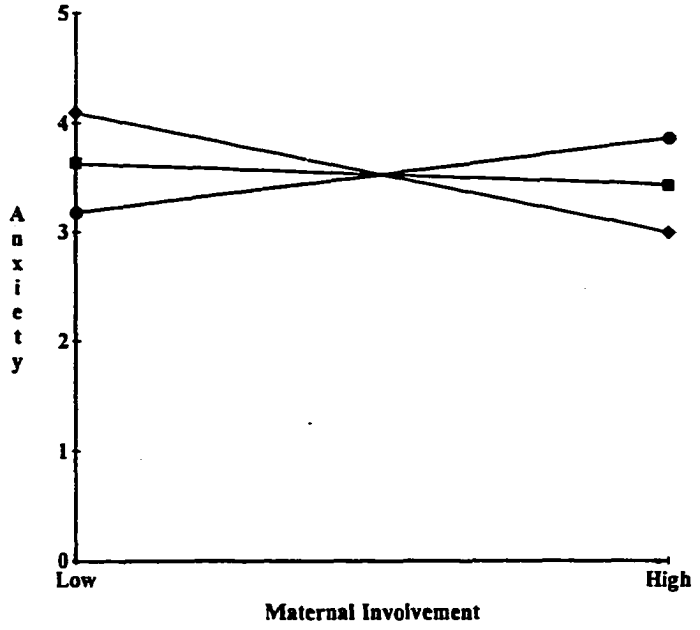


Figure 5

Male Agreeableness, Conscientiousness, and Openness as Moderators of the Relationship Between Parenting Variables and Internalizing Problems

a)



b)