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Gender-Related Aggressive Strategies, Psychosocial Adjustment,  
and Parental Influences in Middle Childhood

Pierrette Verlaan

A Thesis  
in  
The Department  
of  
Psychology

Presented in Partial Fulfilment of the Requirements  
for the Degree of Doctor of Philosophy at  
Concordia University  
Montréal, Québec, Canada

December 1995

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## ABSTRACT

### Gender-Related Aggressive Strategies, Psychosocial Adjustment, and Parental Influences in Middle Childhood

Pierrette Verlaan, Ph.D.  
Concordia University, 1995

The present study examined three dimensions of children's aggression: (1) gender differences in the use of physical, verbal, and indirect strategies of aggression; (2) the relations between type of aggressive strategy used and psychosocial adjustment; and (3) the links between children's externalizing behavior problems and family functioning. The sample consisted of 406 students (205 girls and 201 boys) in Grades 5 and 6, ranging in age from 10 to 13 years (mean age = 11.2 ). Children provided information on same-sex peers' aggressive strategy use and the frequency of their aggression, withdrawal and likeability. A subsample of 189 mothers (97 girls and 92 boys) and 158 fathers (81 girls and 77 boys) provided reports of their children's behavior and social problems, and completed measures which assessed antisocial behavior, marital problems and parenting difficulties.

The results provided evidence of gender-related forms of aggression. Specifically, physical aggression in boys and indirect aggression in girls. The findings also indicated that both physical and indirect forms of aggression were related to same-sex peer alienation. Physical aggression was linked with externalizing, internalizing and interpersonal problems, and indirect aggression was associated with social withdrawal. In addition, physically aggressive girls were more disliked than physically aggressive boys, and were viewed by fathers as experiencing more interpersonal problems than physically

aggressive boys. Conversely, boys who engaged in indirect aggressive strategies were also less liked and were viewed as more socially withdrawn by same-sex peers than girls who also engaged in indirect aggression. These findings are consistent with the hypothesis that gender role atypical behavior exacerbates the risk for psychosocial impairment.

The results of pathway analyses indicated that externalizing behavior problems in children were also strongly related to parental adjustment difficulties. Specifically, maternal antisocial behavior and marital hostility were linked to sons' and daughters' externalizing problems via dysfunctional child-rearing practices. Maternal antisocial behavior, however, was also directly relevant to children's difficulties. For fathers, the factors related to externalizing difficulties in sons were as those specified for mothers. However, fathers' rejecting/hostile parenting style did not appear to be relevant to daughters' externalizing difficulties. The present findings contribute toward a better understanding of gender role aspects of aggressivity and their links with children's psychosocial adjustment and parental competencies.

## ACKNOWLEDGEMENTS

Many people helped me during this project, contributing time and effort to the successful completion of this study. I am especially grateful to Dr. Alex Schwartzman, for his direction, inspiration and sustained encouragement. His thoughtful comments, feedback and his gentleman "savoir-faire" was greatly appreciated.

My sincere appreciation is also extended to Dr. William Bukowski for providing guidance, clarity and humour to structural equation analyses and for his valuable suggestions regarding the statistical analyses. Special thanks is offered to Dr. Lisa Serbin for her enthusiasm, encouragement and comments on the dissertation.

I wish to express my gratitude to Claude Senneville for his assistance with the data entry, coding and statistics, but particularly, for his time and patience with my numerous questions throughout the last four years. Deep appreciation is expressed to Jean Senneville for entering the data and to Xiaoming Tang for helping with the path diagrams. Special gratitude to Caroline van Rossum for providing her numerous Dutch talents. Specifically, for finding the schools and helping with the testing. Special thanks also to Pascale Lehoux, Fanny Lhouneau, Dany Lacroix and Linda Pronovost of the Concordia Longitudinal High-Risk Project for their encouragements.

The support, enthusiasm and instrumental help of my friends and colleagues contributed considerably to shape my thinking as the thesis progressed. A special thanks to Anne Bowker for stimulating coffee breaks, discussions, laughter and for sharing general Mom-Grad student concerns. Thanks also to Patti Peters, Dr. Lorrie Sippola and Dr. Wendy Graig for their warm encouragement and for their thoughtful comments and suggestions on the dissertation.

I wish to express my gratitude to the principals of Montreal and St-Jean-sur-le Richelieu participating schools and to their teaching staff for promoting this study and

encouraging parental involvement. Their enthusiasm in discussing the project made data collection a pleasure. I would also like to express my thanks to all the children and parents who graciously participated in this study.

Sincere gratitude is expressed to my parents for believing in me and for fostering the thought that happiness is achieving the goals that one has set out in life. A special thank to my whole family for their tolerance and reassurance.

Finally, I would like to express my deepest appreciation to Normand, for his unfailing belief in me and my work despite times when I, myself did not. Thank you for the caring, the patience, and the numerous sacrifices, but most of all, thank you for sharing my dreams. To my children, Alex and Yannick, who provided the inspiration to complete this project and who have helped me so much understand the meaning of parental warmth. Je vous aime.



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## Gender-Related Aggressive Strategies, Psychosocial Adjustment, and Parental Influences in Middle Childhood

A variety of terms have been used in the psychosocial and clinical literature to define aggression including externalizing behavior, acting out, conduct disorder, and antisocial/delinquent behavior. Although they tend to be globally defined and used interchangeably within studies, all these terms usually refer to acts whose intent is to inflict harm on others (Berkowitz, 1993; Brehm & Kassin, 1990; Myers, 1990; Vander Zanden, 1993).

Frequent and extreme aggressivity in childhood indicates seriously disordered emotional adjustment that potentially predicts delinquent and antisocial behavior in adolescence and adulthood (Loeber, 1990; Loeber & Stouthamer-Loeber, 1986; Robins, Tipp, & McEvoy, 1991). Because it is difficult to ameliorate children's aggressivity through psychological treatment and longterm improvement has seldom been demonstrated (Dumas, 1989; Kazdin, 1987), aggression is usually conceptualized as a chronic behavioral handicap (Kazdin, 1985).

Although evidence for childhood aggression as a predictor of disorder and dysfunction has been generalized to both girls and boys, much of the detailed research and theoretical causal models regarding childhood aggression have been confined to boys. There are several reasons that may explain the paucity of studies on aggressive and antisocial girls. First, in community samples, aggressive behavior is two to three times more common in boys than girls (see Block, 1983; Parker & Slaby, 1983, for reviews), and in clinic samples, the sex ratio for conduct disorder is 4:1 in favour of boys (DSM-III-R, 1987; Offord, Boyle, & Racine, 1989; Rutter, Tizard, Yule, Graham, & Whitmore, 1976; Zoccolillo, 1993). Second, school adjustment, drug abuse, delinquency and criminality have been the most frequent variables examined as outcomes in longitudinal studies, and boys have higher problem rates in these domains than girls (Robins et al.,

1991, Rutter & Garmezy, 1983). Third, the focus of research has been on observable forms of aggressive behavior (e.g., physical and agonistic), and boys tend to exhibit more of these behaviors than girls (Maccoby & Jacklin 1980, Hyde, 1984). Finally, evidence suggests that males may be more prone to "act out" than females in response to negative social stressors (Emery, 1982; Johnson, 1988; Rutter & Garmezy, 1983). Not surprisingly, these findings have been interpreted to signify an overall lack of aggressivity in girls. As Maccoby (1990) has noted, we seem to have a better understanding of what girls do not do, rather than what they do. The general aim of the present study, therefore, was to gain a better understanding of the contextual aspects of aggressivity in girls.

Three goals were targeted for the present study. The first goal was to investigate gender differences in aggressive behavior (i.e., physical, verbal, indirect) in middle childhood. The second goal was to clarify our understanding of the association between patterns of aggression and psychosocial adjustment within the peer and parental domains. The third goal was to elaborate on the links between children's externalizing behavior problems and family functioning: specifically, to examine the paths by which mothers' and fathers' antisocial behavior, marital hostility, and dysfunctional parenting were related to the behavior problems of offspring.

In the following section, a review of the psychosocial studies that pertain to the goal of the study with an examination of certain features of aggression that appear to be more frequently observed in women than men, is presented.

### Characteristics of female aggression

Although previous studies have consistently demonstrated that boys exhibit higher levels of aggression than girls (see Block, 1983; Parke & Slaby, 1983, for reviews), there is evidence suggesting that females equally display aggressive behavior, particularly, when



they are not in danger of being identified (Rabbie, Goldenheld, & Lodewijk, 1992). Laboratory studies indicate that females are as aggressive as males when the experimenter takes responsibility for the aggression (e.g., takes the blame for mild electric shocks delivered by females to victim) or when the pain inflicted is mental (Eagly & Steffen, 1986). Women are also known to aggress on city streets (e.g. gang fighting) and in family contexts (e.g. wife-to husband violence) (Burbank, 1987, 1994; Cummings, 1994; Harris, 1994; Strauss and Gelles, 1990). Some even commit violent crimes (Rosenblatt & Greenland, 1974). In fact, most epidemiologic studies of psychiatric disorder in children and adolescents have found that next to anxiety disorders, conduct disorder is the most common psychiatric diagnosis prevalent among girls (see Zoccolillo, 1993, for review). Moreover, there is consistent evidence that the consequences of aggressive behavior, although differing in form, are as adverse for girls as they are for boys.

In one of the earliest longitudinal studies addressing this issue, Robins (1966), found that a group of girls (age 6-16 years) who were referred to a child guidance clinic for antisocial behavior, showed a higher incidence of externalizing behavior problems when compared to a matched control group 30 years later. Of particular interest were the within-sex descriptive data reported by Robins: specifically, no girls from the control group had been arrested, as compared to 40% in the clinical group. The most common offenses in the clinic sample were drunkenness, prostitution and larceny. Antisocial girls, but not boys, were also found to have an increased risk for somatic problems, anxiety, and depression. In addition, antisocial girls were found to have more marital problems, were more neglectful of their children, and more often transmitted behavior problems to their offspring.

Similarly, Zoccolillo and Rogers (1991), in a study of 55 conduct disordered teenage girls admitted to a short-term psychiatric unit, found that 24% had been arrested by the police or had contact with the juvenile justice system; 65% had problems stemming

from alcohol or drug use; 22% had attempted suicide; and 32% had become pregnant before the age of seventeen. The majority also had depressive and anxiety disorders and had dropped out of school.

Other researchers have reported similar outcomes using community samples. In the Epidemiological Catchment Area study, Robins (1986) collected data on 3000 women. Information on type and frequency of antisocial behaviors in childhood was obtained retrospectively using extensive personal interviews. Results indicated that the more conduct problems a woman exhibited before age 15, the greater was the risk for developing externalizing disorders such as antisocial personality disorder, and drug and alcohol abuse or dependence. Although the risk for disorder was less for women than for men, the risk for developing one of these disorders rose from 4% for women with no history of childhood behavior problems to 64% for those with seven or more problems. In addition to predicting these externalizing disorders, antisocial behavior in girls, but not in boys, predicted an increased rate of internalizing disorders (i.e., major depression, phobia, dysthymia, and obsessive-compulsive disorders). In effect, the excess of internalizing disorders in antisocial girls made up for their lower rate of externalizing disorders, so that the proportion with at least one positive diagnosis of mental illness was as high for women as for men with histories of conduct disorder.

The Concordia Longitudinal Project also shows that highly aggressive girls are much less at risk of committing a criminal offence (3.2%) than are aggressive boys (42%), but they are more likely than other girls to become adolescent mothers, single parents, to have higher levels of psychiatric symptomatology, to be less competent mothers, and to have children with early signs of psychosocial difficulties (see Serbin, Moskowitz, Schwartzman, & Ledingham, 1991, for a review). In sum, although the linkage between females' aggression and later externalizing problems such as antisocial personality disorder and criminal offense, does not match the linkage observed in aggressive males,

aggressivity in girls does predict a distinct behavior pattern of comorbid problems (externalizing and internalizing) and parenting difficulties that have negative implications for the future of these young women and their offsprings.

In order to clarify the developmental processes associated with childhood aggression in males and females, researchers have strongly argued that it is important to determine gender differences in behavioral modes of aggression, as well as their contextual family correlates. In this perspective, it is ironic that most scientific studies of determinants, correlates, and outcomes of aggression have been confined to boys or have not examined gender effects.

#### Gender-related strategies of aggression

The first goal of the present study was to assess gender differences in the expression of aggression. This focus has been prompted by the notion that gender-related social roles dictate modes of aggressive expression (see Block, 1982, for a review). The feminine social role in our culture places stress on the importance of caring and empathetic qualities that may not be compatible with open forms of aggression (Eagly & Steffen, 1986). In addition, girls may at an early age, realize that physical strategies of aggression are not effective in that they not only elicit general disapproval (Perry, Perry, & Weiss, 1989), but may also prove to be physically risky (Björkqvist, 1994). That is, the use of physical aggression is more likely to elicit physical counter-attack from the victim, and the aggressor is likely to get hurt herself.

Accordingly, one would expect that the appraisal of these factors would lead to a transformation of aggressive strategies in girls (Bandura, 1986; Björkqvist, 1994; Parker & Slaby, 1983; Perry & Bussey, 1979; Tieger, 1980). Evidence indicates that aggressive patterns of behavior are in fact subject to developmental changes that take place from

childhood through adolescence in both girls and boys (Björkqvist, 1994; Björkqvist & Niemela, 1992; Cairns & Cairns, 1984; Cairns, Cairns, & Neckerman, 1989). Aggression is predominantly physical in preverbal young children. Language development is quickly used not only for ordinary communication, but also for aggressive purposes. Hence, as social intelligence develops, more sophisticated strategies of aggression become possible. The child learns that a target person can be harmed either by direct overt confrontation or by circuitous indirect means. Indeed, by adulthood, physical aggression is really the exception, and not the rule as a mean to deal with interpersonal conflict (Burbank, 1987).

There has been considerable confusion, however, about the concept of indirect aggression in the literature. Some authors have used the dichotomy of direct versus indirect aggression to distinguish between physical and verbal aggression, and others to distinguish between targeted and untargeted aggression (see Frodi, Macaulay, & Thome, 1977, for review). Recently, certain authors have differentiated aggression as harm directed in a face-to-face situation, and as harm directed circuitously (Cairns et al., 1989; Crick & Grotpeter, 1995; Lagerspetz, Björkqvist, & Peltonen, 1988). In these studies, peer-ratings were used to assess gender differences in children's use of several types of aggressive behavior. Although Crick and Grotpeter (1995) referred to "relational aggression" and Lagerspetz and associates (1988) to "indirect aggression" both terms effectively refer to acts that involve themes of social alienation and manipulation of peer acceptance (e.g., gossiping, trying to win others to one's side, excluding from groups). As Buss (1961) pointed out, indirect aggressive acts are conducted when the victim is not present, and the noxious stimuli are delivered via the negative reactions of others. Thus, the victim is harmed at the end of a chain of mediating events. In this perspective, indirect/relational strategies of aggression may prove more effective than direct physical or verbal aggression in that the perpetrator succeeds in inducing psychological harm on the target person without being

identified. Thus, the perpetrator avoids retaliation and minimizes the risk of direct confrontation.

Björkqvist and his colleagues ( Björkqvist, Lagerspetz, & Kaukiainen, 1992; Björkqvist, & Niemela, 1992; Lagerspetz et al., 1988) report some of the most compelling findings on gender-related patterns of aggression. In their studies, three types of aggression ( i.e., physical, verbal, and indirect) were measured using a peer estimation technique. Results revealed that: (a) boys consistently used more physical aggression than girls; (b) girls used indirect means of aggression to a significantly greater extent than did boys; and (c) verbal aggression was used equally frequently by both sexes. The gender differences obtained for physical and indirect aggression were later replicated in a cross-cultural study of Finnish, Italian, Israeli and Polish children (Björkqvist, Osterman, & Lagerspetz, 1994). However, in contrast to the Finnish study, boys used overall significantly more verbal aggression than girls

Similar findings were obtained by Cairns and Cairns (1984) in the United States. These researchers found boys to be more frequently nominated than girls for involvement in physical conflicts. However, no gender differences were found when strategies of aggressive conflicts (i.e., verbal, physical and indirect) were combined. In a longitudinal follow-up of this sample, it was found that over the age period of 10 to 16 years, there was a shift in the nature of the aggressive behaviors for girls, from physical aggression to social aggression and ostracism. That is, by grade seven, more than one-third of female-female conflicts involved manipulation of group acceptance through alienation, ostracism, or character defamation (Cairns, et al., 1989). Recent findings by Crick & Groetpeter (1995) also support the hypothesis that, as a group, girls are more relationally (indirect) aggressive than boys; and boys, on average, are more overtly aggressive (i.e., physical and verbal aggression) than girls. Clearly, these findings indicate that there are gender differences in

the expression of aggression. Thus, any examination of aggression involving middle childhood children should consider the gender specificity of its form of expression.

### Strategies of aggression and psychosocial adjustment

One of the major limitations in the study of aggressive strategies to date, is the paucity of research on the links between style or expression of aggression and psychosocial adjustment. The question of interest here is whether the psychosocial correlates of physical, verbal, and indirect aggressive strategy use relate to similar or distinctive psychosocial behavior patterns in boys and girls. Clarification of this question is important because of the information to be gained regarding gender-differentiated psychosocial risk impairment. Given the potentially serious consequences of childhood aggression (see Parker & Asher, 1987, for a review), it is important to conduct research in this relatively unexplored domain. Accordingly, the second goal of the present study was to examine the association between patterns of aggression and concurrent psychosocial functioning as perceived by parents and peers.

Although the empirical literature in this area is sparse, there is evidence from the domains of developmental psychology and childhood psychopathology that deals with the relation between gender-related aggressive strategies and other manifestations of interpersonal adjustment. In the following review, three issues receive emphasis; the first deals with children's responses to interpersonal conflict; the second with the specificity of links with particular forms of maladaptive functioning; and the third with counter-stereotypic gender role behavior as an indicator of impaired social functioning.

Interpersonal problem-solving. Several studies have shown that children's responses to interpersonal conflict vary as a function of their social behavior profile. Specifically, researchers found that aggressive children were more likely to generate

physical or agonistic approach strategies in response to hypothetical social dilemmas (Bowker, Hymel, Zinck & Woody, 1995; Crick & Dodge, 1989; Dodge, 1986; Quiggle, Garber, Panak, & Dodge, 1992). In addition, studies have shown that children with avoidant (i.e., withdrawn) behavior styles engaged in submissive, nonassertive behavior, which may have led to a more avoidant response style to social conflict (Rubin & Mills, 1988; Deluty 1981; Crick & Ladd, 1990). Because the use of indirect aggressive strategies has not been examined as a possible response behavior to interpersonal confrontation, one could speculate, that if socially withdrawn children were to retaliate aggressively against peers, they would be more likely to engage in more "covert" or relational/indirect forms of aggression rather than to the more direct verbal or physical power-assertion confrontation styles of their same-sex classmates.

In summary, although studies have not examined indirect expression of aggressivity as a response to resolve social conflictual problems, one might expect that withdrawn children are likely to adopt indirect/relational responses to social conflicts, and aggressive children, the more physical and direct verbal strategies of aggression.

Behavior problems and adjustment difficulties. The second issue concerns the specificity of links with particular forms of maladaptive functioning. Evidence suggests that particular behavior profiles (i.e., aggression and withdrawal) are associated with particular gender-related symptoms ( Peters & Serbin, 1992; Robins, 1966, 1986; Serbin et al., 1991; Schwartzman, Bowker, & Verlaan, 1995; Zoccolillo, 1992). Because measures of aggression have traditionally been directed at physical and/or disruptive behavior (Achenbach & McConaughy, 1987; Maccoby & Jacklin, 1980), and because aggressive children are likely to adopt physical aggressive responses to resolve social conflictual problems (Bowker, et al., 1992; Crick & Dodge, 1989; Dodge, 1986; Quiggle et al., 1992), one can expect elevated rates of physical aggression in both girls and boys to signal serious psychosocial disturbance. As noted earlier, the consequences of childhood

aggression in both males and females have been linked to delinquency and antisocial behavior in adulthood (Loeber, 1990; Loeber & Stouthamer-Loeber, 1986; Robins et al., 1991). In females, it is also predictive of problematic sexual activity as well as internalizing problems such as somatic complaints, anxiety and depression. (Robins, 1966, 1986; Zoccolillo, 1991; Serbin et al., 1991). Consequently, it seems reasonable to assume that it is the children who exhibit elevated rates of physical aggression in particular who experience these negative outcomes.

There is also evidence that extremely withdrawn children are at risk for internalizing behavior problems. For example, Rubin & Mills (1988) found that passive-anxious isolation assessed through behavior observation was predictive of self-reported internalizing difficulties including depression and loneliness among school-aged children. Similarly, Bukowski and associates (Bukowski, Bowker, Zargarpour, & Hoza, 1995; Hoza, Molina, Bukowski, & Sippola, in press) found that, regardless of whether concurrent or longitudinal relations were being examined, social isolation was a significant predictor of teachers reports of internalizing problems. Williams and Schwartzman (1995), also found that individuals who were withdrawn in childhood were low in self-esteem, and high in social anxiety relative to individuals without such a history. In addition, men who were withdrawn reported more depression and global distress than withdrawn females. As noted earlier, because children with avoidant behavior styles engage in submissive, nonassertive behavior, and because these behavior styles may be indicative of indirect aggressive strategy use: one may expect that the relative risk of internalizing problems might be best predicted by indirect aggression. Indeed, recent findings by Crick and Groetpeter (1995) indicate that relational aggressive strategy use was significantly associated with self-reported depression, loneliness and social isolation.

Counter-stereotypic gender role behavior. The third issue concerns counter-stereotypic gender role behavior as an indicator of impaired social functioning. The premise



here relates to what Eme (1979, 1992) has termed a "gender paradox" risk model of pathology. The model is predicated on the notion that in disorders with sex differences in their incidence rate, individuals within the lower incidence sex category are the more seriously affected. The underlying assumption is that a higher within-sex threshold for disordered behavior is reflected by the lower incidence rate, and by inference, a more severe prognosis is implicated for members of the lower incidence sex category who reach diagnostic criterion. Recently, Schwartzman and colleagues (1995) applied the gender paradox model to a formulation of psychosocial risk enhancement, according to the following assumptions: fewer girls than boys are aggressive and fewer boys than girls are withdrawn; it is gender-normative for boys to be more aggressive than girls, and girls to be more withdrawn than boys; gender-atypical behavior problems are likely to be more pathogenic than gender-typical behavior problems. Hence, aggression is more a psychosocial risk factor in girls and childhood withdrawal more a psychosocial risk factor in boys.

Consistent with this hypothesis, there is persuasive evidence suggesting that behavioral problems can be explained by the interaction between individual and group characteristics. For example, although aggressive and withdrawn behaviors have consistently been implicated in questions of peer acceptance (Boivin, Thomassin, & Alain, 1989; Bukowski & Newcomb, 1984; Bukowski et al., 1995; Coie, 1990; Coie, Dodge, & Kupersmith, 1990; Hymel, Bowker, & Woody, 1993; Parker & Asher, 1987, Rubin & Daniels-Bierness, 1983; Rubin, Lemare, & Lollis, 1990), several recent studies have shown that aggression and withdrawal, are not universally associated with low status but are dependant on person-group similarities (Boivin, Dodge, & Coie, 1995; Wright, Gaimmarino, & Parad, 1986). For example, Wright et al., (1986), reported that in highly aggressive groups, social acceptance was negatively correlated with withdrawal, whereas in low-aggressive groups, peer status was unrelated to withdrawal. Similarly, acting

aggressively in a high-aggressive group was unrelated to children's social acceptance, whereas in low-aggressive groups, peer status was negatively correlated with the child's aggression. These results are congruent with Boivin and colleagues (1995) findings, which indicated that in groups who displayed low reactive aggressive behavior (e.g., threatens others, has temper tantrums, is easily angered), high reactive aggressive children were more disliked by group members. Furthermore, in groups in which solitary play was nonnormative, more the children who engaged in solitary play were disliked.

There is also evidence suggesting that children who fail to engage in age and gender appropriate social behaviors are likely to experience difficulties with their peers. For example, boys approve more of physical aggression than girls do, and older children view aggression in boys more positively than aggression in girls (Schwartzman, Verlaan, Peters, & Serbin, 1995; Serbin, Marchessault, McAffer, Peters, & Schwartzman, 1993). Consequently, aggressive and withdrawn behaviors are only perceived as problematic in groups in which they could be considered as deviating from the norm, thus indicating a dissimilarity effect or a "misfit" effect as Wright and associates (1986) labeled it.

The misfit effect can also be incorporated with concerns regarding gender differences in aggressive strategies. Because indirect/relational aggressive strategy use is more common in females and physical aggression in males (Björkqvist, 1994; Crick & Groetpeter, 1995), higher rates of indirect aggression in males and physical aggression in females may suggest an inability to conform to gender-role conventions. That is, physical aggression in females and indirect aggression in males are gender-atypical behavioral strategies and are likely to be perceived by parents and peers as more maladaptive than gender stereotypic behavior patterns. Indeed, aggression in males but not in females has consistently been viewed as culturally appropriate expression of "power" or "dominance" striving (Connell, 1987). Girls in general are described as less rough and aggressive in their interactions with peers and less concerned with competition and dominance than boys

(Archer, 1992; LaFreniere & Charlesworth, 1987; Maccoby, 1990). Thus, the frequent use of gender-atypical strategies of aggression in both boys and girls may be viewed by same-sex peers and parents as more socially inappropriate behavior than gender-typical means of aggression and may lead them to be more disliked by same-sex peers and perceived by parents as lacking social interpersonal functioning.

In light of the foregoing issues, studies are needed to determine the full spectrum of gender-related psychosocial adjustment difficulties that are associated with patterns of aggression. One might expect physical aggressive strategy use to be characteristic of aggressive children and indirect aggressive strategies to be characteristic of socially withdrawn children. Both are associated with particular gender-related symptoms. Gender-atypical aggressive strategy use as compared to gender-congruent strategies may also signal elevated susceptibility to impaired social functioning. That is, physical aggression in females and indirect aggression in males may signal poor peer acceptance and parental perceptions of maladaptive interpersonal social functioning.

#### Parental adversity and children's externalizing behavior problems

The third goal of the present study was to examine the links between parental adjustment and childhood externalizing behavior problems. In particular, we wished to determine whether antisocial behavior in the parents, marital discord, and rejecting/hostile parenting behaviors, were related to the externalizing problems of children, and whether these linkages were gender-related in the parents and in their offspring.

Family interactions have long been assumed to influence aggressive/antisocial behavior. In ancient Greece, for example, Aristotle asserted that in order to be virtuous, "we ought to have been brought up in a particular way from our very youth" (Bk. 11, ch. 3;

11048). Twentieth century theorists ranging from the psychoanalytically to the behaviorally oriented seem to concur with earlier thinkers in assuming that parental care is critical to socialized behavior. Theorists have emphasized one or another feature of family life as important for healthy child development. Research concerned with bonding to, or identification with, socializing agents has focused on the affection of parents for their children (e.g. Hirshi, 1969; McCord & McCord, 1959); research based on conditioning theory has emphasized discipline and controls (e.g., Baumrind, 1971, 1983; Lewis, 1981); and social learning theory proposes modeling as one mechanism by which aggressive behaviors may be acquired (e.g., Bandura, 1973, 1977). Recently, social-interaction theorists have postulated that aggressive behavior is a pattern or trait that has been learned, strengthened, and maintained by the social interaction in which it takes place (Patterson, 1976, 1982). Because so much of the empirical research on aggression has been influenced either by social learning or by social-interaction theory, the relevance of these two behaviorist models in understanding the origins of aggression, is reviewed here as background for the current project.

Social Learning Theory. One of the principle assumptions of social learning theory is that the family provides an important context for learning and serves as the primary agent of socialization, including the socialization of children's aggressivity. Bandura (1977) points out that children observe their parents' aggression in a variety of contexts: in the parental dyadic relationship, in the parent-child relationship, and in a variety of other contexts. In addition, children are often reinforced vicariously for the actions of others when they witness the reinforcing process and its effects. Bandura assumes that aggressive behaviors persist because they are being reinforced by the outcomes they produce. In this perspective, children come to behave aggressively merely by being exposed to the hostile/aggressive behavior of others, and seeing that these behaviors are socially effective. Modern social learning theorists emphasize that once the child recognizes his social potency

he will express these behaviors spontaneously in other contexts (Bandura, 1977; Mischel, 1974).

There is considerable debate over the role of environmental factors in explaining childhood aggression (e.g., Dilalla & Gottesman, 1991; Dodge, 1990; Widom, 1991). Modern genetic researchers assume that individuals inherit the predisposition to develop emotional and behavioral problems (Resnick, Kagan, Snidman, Gersten, Baak, & Rosenberg, 1986; Plomin, Loehlin, & Defries, 1985). The fact that aggression is related to early behavior patterns in infancy, may indeed suggest that it is partly under genetic control (see Thomas & Chess, 1977, for a review). However, irrespective of the extent to which a propensity to behavior problems may or may not be inherited, it would appear that many problematic families have children with an almost life-long history of behavioral difficulties.

For example, in a review of studies conducted from 1975 to 1985, West and Printz (1987), found that the children of antisocial and alcoholic parents are at greatly elevated risk for conduct disorder. Other studies have found that the mothers of clinic-referred children with disruptive behavior problems had deviant MMPI profiles. Elevations were noted on the hysteria and psychopathic deviate scales in particular, although incidence rates of mania, paranoia and depression were elevated as well (Anderson, 1969). These results are consistent with studies linking parental MMPI profiles with antisocial behavior in offspring (Huessman, Lefkowitz, & Eron 1978; Slavney & McHugh, 1975; Vincent et al., 1983). Elevated prevalence of antisocial behavior, criminal activity and substance abuse in fathers has also consistently been mirrored by elevated prevalence of conduct disorder in male offspring (; Earls, 1987; Lahey, Piacentini, McBurnett, Stone, Hartdagen, & Hynd, 1988; Robins, 1966; Stewart & Leone, 1987).

In addition to parental antisocial behavior, another factor which pertains more to the parent's social environment domain, and has consistently been identified as impeding on

child's adjustment is overt spousal hostility. In a recent review, Grych and Fincham (1990) concluded that 15 of 19 relevant studies provide evidence of a positive association between parental discord and children's adjustment problems, including externalizing disorders. Generally, marital hostility is viewed as disturbing to the child because it may lead to fear arousal and to learning patterns of behavior involving the expression of hostility.

In sum, social learning theory focuses mainly on the environmental underpinnings of behavior problems in children. Although, this model has been questioned by biologically oriented investigators, the two approaches are not incompatible. In fact, most researchers believe that psychological disorders often involve a complex interplay of biology and environment. Indeed, the foregoing findings, indicate that children of disordered parents are at heightened risk for adjustment problems, particularly aggressive/conduct behavior problems.

Social-Interaction Theory. Although social-interaction theorists also point out that a number of negative parental characteristics are implicated in childhood aggressive behavior, the underlying premise is that the effect of these parental features on children's adjustment is indirect. That is, they are mediated by the independent perturbations of parenting practices (Patterson, 1982; Patterson, Capaldi, & Bank, 1991; Patterson, DeBaryshe, & Ramsey, 1989). These characteristics of parents have been termed by Patterson as "parental disruptors". As such, they include a history of antisocial behavior, disadvantaged socioeconomic status, and marital conflict.

The social-interactional perspective is predicated on the assumption that antisocial behavior is a pattern that has been learned, strengthened, and maintained by the social interaction in which it takes place. In essence, problematic parents tend to be non-contingent in the use of both positive and negative reinforcers, be it for prosocial or antisocial behavior. Consequently, these parents teach the child to act aggressively by

responding ineffectually to their coercive actions, thereby reinforcing the behavior (Patterson, 1976, 1982; Patterson et al., 1989).

In this model, Patterson presents a developmental pathway in which dysfunctional parenting reinforces aggressive behavior in boys, which in turn, elicits rejection from the peer group and interferes with his academic functioning. Aggressive behavior, poor school achievement, and peer group rejection are viewed as important precursors of deviant peer group membership, school dropout, and antisocial behavior. There is evidence in support of the model (Patterson & Dishion, 1985; Patterson et al., 1991; Reid & Patterson, 1991).

In sum, Patterson's causal model places emphasis on the interaction between children's coercive behavior and parents' poor parenting practices to explain the development, maintenance, and course of antisocial behavior in children. The implication for preventive treatment are quite clear: if a child acts coercively and parents respond effectively with appropriate use of relevant reinforcement and contingencies, the coercive cycle will not be set into motion and the chances of developing antisocial behavior decreases substantially.

Investigators have provided support for the mediating link of dysfunctional parenting between parental personal adjustment difficulties and children's externalizing behavior problems. For example, recent evidence reported by Andrews, Brown, and Creasy (1990) has demonstrated that the process of adverse parenting contributes more strongly to disorder in the second generation than do the negative characteristics of parents in themselves. Patterson and Dishion (1985) also found a significant correlation between retrospective reports of grandparents' explosive reactions and parental antisocial traits through the impact of adverse parental disciplinary tactics. Holmes and Robins (1987), interviewing adults selected from the Epidemiological Catchment Area (ECA) samples, found that adult psychiatric disorder was strongly associated with reports of unfair, harsh, and inconsistent discipline in childhood. Similarly, Rutter and Quinton (1984) reported

that even in families where children are exposed to a range of problematic behaviors in parents - where, for example, one or the other parent is psychiatrically ill - parental hostility toward the child appears to be among the most important risks.

Studies examining the impact of marital hostility also indicated that in families which experience severe marital violence, it is direct parent-child aggression, nevertheless that carries the greatest risk for children (Jouriles, Barling, & O'Leary, 1987; Jouriles, Pfiffner, & O'Leary, 1988). Using structural equation modeling, Forgath and colleagues (Forgath, Patterson & Skinner, 1988) documented the relationship between marital stress and antisocial behavior, via the mediating influence of negative parenting.

To summarize, two models illustrated in Figure 1, represent the pathways that are implicated in these issues. Based on Patterson's interactive-processing theory, Model (A) assumes that parental antisocial personality and marital hostility are related to the externalizing difficulties of their children indirectly through the broader parenting context in which parent-child relationships occur. Thus, the model posits that parental antisocial behavior and marital hostility are linked indirectly to children's externalizing problems through the mediating influence of dysfunctional child-rearing practices adopted by such parents. Based on social learning theory (Bandura, 1977), Model (B) displayed in Figure 1, plots an additional direct path from parental antisocial behavior and marital hostility to children's externalizing difficulties. In this model the impact of antisocial behavior and marital hostility is not entirely mediated by dysfunctional parenting. That is, dysfunctional parent-child relationships do not account for all the variance observed in children's maladjustment. In sum, these two models are complementary: social-interaction theory accounts for evidence that dysfunctional parent-child relationships are the major breeding ground of psychological disturbance in the offspring while social learning theory accounts for the additional risk posed by negative personal characteristics of the parents as models for their children.





These two models by no means exhaust all the possible causes, consequences and processes by which dysfunctional family functioning affects children's adjustment, however, they do address areas of influence that have been overlooked by researchers in the past. For example, an important limitation of research in this area is the proliferation of studies that focus on only one component, or pathway to the aggression. Investigations of multiple influences (e.g., parental antisocial behavior, marital discord, dysfunctional parenting) on aggression are consistent with multidimensional models of social learning (Bandura, 1977) and social-interaction (Patterson & Dishion, 1985). Social learning investigators in formulating their model, however, have omitted to pull together the numerous environmental factors that are believed to contribute to children's behavior problems. For instance, several findings are based on the separate prediction of parental antisocial behavior or marital discord without identifying the complex process by which these factors influence children's adjustment difficulties. In particular, the premises of social learning theory have not been concerned with the complex modeling processes of direct and indirect parental influence that have been assessed by social-interaction investigators. From a theoretical perspective, we need a clearer understanding of the interplay of factors which influence the family transmission of psychopathology to children, particularly, in the domain of parent-child interactions by which parental variables are differentially transmitted to girls and to boys. Indeed, a major difficulty in this research area is that it focuses mainly on boys. To date, there is little empirical evidence to clarify whether the proposed mechanisms of parental influence with regard to male aggression are pertinent for girls as well.

A further problem, is the lack of studies which differentiate the links between fathers' versus mothers' impaired social functioning and the difficulties specific to their sons and specific to their daughters. One of the few studies that has done so, found that parental characteristics have both direct and indirect effects on children's externalizing

problems (Maughan, Pickles, & Quinton, 1995). In this study, although parental hostility was among the most important family correlates for both conduct disordered girls and boys, the authors found that paternal criminality and maternal psychiatric effects exerted additional direct effect on boys' behavior problems. For girls, hostile mother-daughter relations were the strongest correlate of conduct problems, with additional effects deriving from paternal criminality. Especially interesting here is the suggestions of some gender specificity in family processes, with girls being more vulnerable to hostile relations with mothers, and boys with fathers. These findings are consistent with evidence of elevated risk in the same-sex child when hostility comes primarily from one parent (Johnson & O'Leary, 1987; Rutter & Quinton, 1984).

In reviewing the foregoing studies, the following issues emerged as a conceptual framework for the present study: the importance of parental antisocial behavior and marital hostility relative to dysfunctional parenting with respect to (i) children's adjustment, (ii) adjustment of sons versus daughters, and (iii) the separate influence of mothers and fathers. Accordingly, a major objective of the present study was to separate the effects of dysfunctional behavior of fathers and mothers, and to examine within the links that emerged similar or different parental influences for boys and girls.

## Summary of Questions and Hypotheses

I. The first set of research questions and hypotheses examined gender differences in the expression of aggression and in concurrent psychosocial adjustment.

Question 1. Are there sex differences in the expression of aggression? It was expected that aggressive strategy use would differ by sex in a manner similar to that found by previous investigators. It was predicted that: (a) boys would express their aggression physically and verbally more often than girls; (b) girls would express their aggression indirectly more often than boys.

Question 2. Does gender-atypical aggressive behavior reflect distinctive patterns of psychosocial functioning in boys and girls? Based on a risk enhancement formulation of the "gender-paradox" risk model of pathology (Eme, 1979, 1992; Schwartzman et al., 1995) and on evidence suggesting that behavioral problems can be explained by differences and similarities between individual and group characteristics (Boivin et al., 1995; Wright et al., 1986), it was predicted that physical aggression in girls as compared to boys, and indirect aggression in boys as compared to girls, would be more strongly associated with maladaptive social functioning in both peer and parental domains. Although hypotheses regarding relations between each of the aggressive strategies with parental and peer reports of the child's social behavior were exploratory, certain gender-related patterns were expected:

i. Physical aggression: Same-sex peer ratings of physical aggressive strategy use in both boys and girls was predicted to reflect peer-ratings of a general aggressive profile as well as concurrent parental reports of aggressive and delinquent behavior problems. However, physically aggressive boys were expected to present more externalizing problems compared to physically aggressive girls. Conversely, physically aggressive girls

were hypothesized to present a more comorbid pattern of problems (externalizing and internalizing) compared to physically aggressive boys. Based on the notion that counter-stereotypic gender-role behavior may enhance psychosocial impairment, physically aggressive girls were also expected to be less liked by same-sex peers and to be perceived by parents as having more interpersonal social problems than physically aggressive boys.

ii. Verbal aggression: Although same-sex peer reports of verbal aggression were expected to be related to global peer ratings of aggression, no specific links between verbal aggressive strategy use and concurrent social adjustment difficulties were expected.

iii. Indirect aggression: More frequent use of same-sex peer-reported indirect aggressive strategy use was expected to be related to same-sex peer-ratings of passive withdrawal and to parental reports of internalizing difficulties in both boys and girls. In addition, higher rates of indirect aggressive strategy use in boys as compared to girls were expected to predict parental perceptions of more interpersonal social problems and lower same-sex peer-ratings of likeability .

II. The following questions and hypotheses dealt with the links between parental functioning and the children's externalizing behavior problems: 1) What are the relationships between parental influence and child maladjustment? 2) Are there differences in the pathways leading to children's externalizing difficulties for mothers and fathers? 3) Are these relationships different for boys and for girls?

In line with considerations of the social learning (Bandura,1977) and social interactionist (Patterson,1982) models of parental influence, two conceptual pathway models were explored. Consistent with the assumptions of social-interaction theory, the first model (see Model A, shown in Figure 1) led us to expect parental antisocial behavior and marital hostility to be associated with externalizing difficulties of the child. These relations, however, were expected to be mediated by dysfunctional parenting behaviors.

The second model (Model B shown in Figure 1) incorporates the premise of social learning assumptions, in which we expected parental antisocial behavior and marital conflict to maintain additional direct links with children's adjustment difficulties above and beyond the mediating influence of dysfunctional parenting. Further, because of evidence suggesting a stronger link of maladaptation between same-sex dyads, we expected mother's and father's dysfunctional parenting behavior to have a stronger impact on the externalizing difficulties of their same-sex child.

## METHOD

### Subjects

The recruitment sample consisted of 406 French-speaking children (205 girls, 201 boys), ranging in age from 10 to 13 years (mean age = 11.7). These children were in Grade 5 (n = 181; mean age = 11.2) and Grade 6 (n = 224; mean age = 12.2) in one of four elementary schools located in the cities of Montréal and St-Jean-sur-Richelieu in the province of Québec.

A subsample of 189 children (97 girls; 92 boys; mean age = 11.8) and their parents agreed to participate in the family assessment segment of the study. Appendix A contains the introductory letter and parent consent forms. The response rate for parent reports was 47% for mothers (n = 189; 97 girls and 92 boys) and 39% for fathers (n = 158; 81 girls and 77 boys). The children were from lower- to upper- middle income families and predominantly spoke French at home (98%).

Multivariate analyses of variance revealed no significant differences between the recruitment sample on either the maternal ( $F(6, 400) = 0.80, p = .57$ ) or the paternal ( $F(6, 400) = 0.88, p = .51$ ) subsamples, with regard to sex of child, and peer-reported aggression, withdrawal and social likeability.

### Measures

The data collected covered demographic variables, patterns of social behavior in children as perceived by parents and peers as well as parental antisocial behavior, marital hostility, and dysfunctional parenting of both mothers and fathers. The measures used and reliability data for this study are described below.

Demographic Variables. The following demographic variables were included in the present study: parents' age, education, number of children per household, parents' occupational prestige and family income. The age and gender of the target child and marital status at the time of the assessment were also recorded. Information regarding demographic variables was obtained separately from mothers and fathers, who completed the questionnaire shown in Appendix B. The means, standard deviations and range of responses on all demographic measures for both mothers and fathers are presented in Appendix C. The average number of children per family was 2.3 for mothers and 2.4 for fathers, 82.6% of the children lived in a two parent household, 12.2% were living with their mothers only and the remaining 4.4% were either living with their fathers alone or with substitute caregivers. Family median income for these families from all sources for the past year (1993-1994) was approximately \$49,500, about \$1,000 per year less than the median income reported for couples with two children in Canada as a whole (Statistic Canada, 1992). Mothers in the analyses averaged 12.2 years of education compared to 12.3 years for the fathers. Occupational prestige was coded according to the Siegel Prestige Scale (cited in Mueller & Parcel, 1981), which assigns prestige scores ranging from 0 to 99 to each of several hundred occupations. The scoring procedure and tables for assigning prestige scores to occupation are provided by Hauser and Featherman (1977). Siegel and Hodge (1968) found a high level of test-retest reliability ( $r = .87$ ) for reports of occupation over intervals of several months. In a review of measures of socioeconomic status, Mueller and Parcel (1981) argued that occupationally based measures best reflect the major dimensions of socioeconomic status. Occupational prestige scores for mothers ( $M = 37.6$ ) and fathers ( $M = 36.6$ ) indicate that fathers were generally skilled labourers or craftsmen, and working mothers on average were in occupations in the services sector of the economy. In general, these families could best be described as middle to lower class, ranging from household heads who were unskilled labourers (17.0) to those who were



professionals (78.0). It was deemed important to include a measure of educational and/or socioeconomic status because of findings indicating that education along with SES is one of most important predictors of psychosocial adjustment. Because years of education and family income were highly correlated for both mothers and fathers, parental education was subsequently selected to represent both factors as a control variable.

### Social Adjustment in Children

To evaluate children's social adjustment difficulties, a parent-reported measure and two peer assessments were employed in the current study.

Parental-Reports of Children's Social Adjustment. Social competence and behavior problems were assessed with the Child Behavior Checklist (CBCL) parent report form, developed by Achenbach (1991). The French translation of the CBCL is presented in Appendix D. This recently revised version of the CBCL reflects new American national norms through the age of 18 years. It is targeted at completion by parents (and substitute caregivers) of children between the ages of 4 and 18 years.

The measure of social competence consists of 20 items which are rated on a 3-point Likert scale ranging from below average to above average. The items are divided into three scales : (a) the Activities scale, which reflects participation in sports, hobbies, and chores; (b) the Social scale, which assesses membership in organizations, number of friends, and behavior alone or with others; and (c) the School scale, which evaluates academic performance. These three measures are summed to comprise the Social Competence (SC) score. Raw scores are converted to T scores according to norms provided by Achenbach (1991).

The measure of behavior problems consists of 118 items which are rated on a 3-point Likert scale ranging from "not true" (0) to "very true" or "often true" (2). Factor analyses described by Achenbach and Edelbrock (1983) yielding 13 factors in a large sample of boys, and 11 factors in a large sample of girls. A second-order factor analysis generated two broadband factors, namely Internalizing (e.g., withdrawn, anxious/depressed and somatic behavior) and Externalizing (e.g., aggressive and delinquent behavior) problems, respectively. The CBCL also provides a Total Behavior Problem (TBP) score. Numerous studies attest the robust psychometric properties of the CBCL (see Achenbach & Edelbrock, 1983, for review). The inter-interviewer and test-retest reliabilities scores were in the .90s for the mean item scores obtained by different interviewers and for reports by parents on two occasions, 7 days apart. Mean test-retest reliabilities of CBCL scale scores were as follow:  $r = .87$  for the competence scales;  $r = .89$  for the problem scales over a 7-day period; over 1 year period,  $r_s$  were  $.62$  for the competence scale and  $.75$  for problem scales. Interparent agreement was evident: mean  $r_s$  for competence scales ranged from  $.74$  to  $.76$  for the four sex/age groups and mean  $r_s$  for the problem scales ranged from  $.65$  to  $.75$ . In addition, odds ratios have been highly similar in comparisons of mothers' and fathers' classifications of children as being in the normal or clinical range on all CBCL scales (Achenbach, 1991).

Interparent agreement in the present study was consistent with previous findings ranging from  $r = .64$  for Internalizing problems and  $r = .76$  for Externalizing behavior problem subscales. Interparent correlation coefficients ( $r_s$ ) of Competence and Total Problem Behavior were  $.66$  and  $.71$ , respectively.

Same-Sex Peer ratings of Social Behavior: The Pupil Evaluation Inventory (Pekarik, Printz, Liebert, Weintraub, & Neale, 1976) was chosen because of the composition of its three scales. The Aggression scale (with items that pertain to classroom

disruption and attention-seeking as well as physical and verbal aggression) and the Withdrawal scale (with items that pertain to shyness and over-sensitivity as well as social withdrawal) have obvious parallels with the broadband factors of externalizing, internalizing behavior problems commonly identified in the study of child psychopathology (Achenbach & McConaughy, 1987). The likeability scale (with items that pertain to popularity and perceived social competence as well as likeability) appears similar in focus to the Social Competence scale of the Child Behavior Checklist (Achenbach & Edelbrock, 1981).

An abridged 19-item version of the PEI was used because previous research suggests that the fidelity of the short version is equivalent to the original 35-item inventory (Bierman, 1987; Pekarik et al., 1976). The abridged version contains the following number of items: aggressive behavior (10 items), withdrawn behavior (5 items) and likeability (4 items). Given arguments, however, that the general withdrawal subscale of the PEI may yield scores that confound assessments of "passive isolation" (i.e., isolates oneself from the peer group) and "active isolation" (i.e., forced out of the peer group) (Bukowski, Bowker, Zarpardour, & Hoza, 1995; Rubin, Hymel, LeMare, & Rowden, 1989; Rubin & Mills, 1988; Younger & Daniels, 1992), only three items that pertained to the construct of passive withdrawal was used in children's peer assessments ("Those who often don't want to play"; "Those who are too shy to make friends easily" and "Those who aren't noticed much") (Cronbach alpha = .66). The PEI items retained in the present study are shown in Appendix E.

Children rated the behavior of their same-sex classmates and their own behavior on a 5-point Likert-type scale ranging in frequency from never (0) to very often (4) on each of the 19 items of the questionnaire. Same-sex evaluations were used because of evidence indicating that there is greater variability in children's perceptions of the other-sex than to differences between same-sex peer ratings (Bukowski, Gauze, Hoza, & Newcomb, 1993)

and because of evidence suggesting that boys and girls interact socially primarily within their own sex groups, therefore forming unique subcultures with distinct sex typed interactive styles (Archer, 1992; LaFreniere, Strayer, & Gauthier, 1984; Maccoby, 1990; Thorne, 1986). The total number of ratings received by each child was summed and then divided by the number of same-sex raters within each class.

Same-sex peer-ratings of direct and indirect aggressive behavior. The Direct and Indirect Aggressive Strategies questionnaire (DIAS; Lagerspetz et al., 1988) deals with three types of peer-rated aggression: direct physical (e.g., hits, kicks), direct verbal (e.g. yells, insults) and indirect (e.g. gossiping, shunning). In the latest version of the scales, the Cronbach's alphas reported for the summed variables were as follows: 1) physical aggression .93 (7 items); 2) direct verbal aggression .92 (5 items); and 3) indirect aggression .93 (9 items). For the purpose of this study and because of time constraints, only 16 of the 21 items were retained and are presented in Appendix F. The internal consistencies (Cronbach's alpha) of the scales in this study were .93 for physical, .96 for direct verbal and .96 for indirect aggression. The uncorrected and corrected measurement error correlations were extremely high and ranged as follow: physical/verbal ( $r = .92/.97$ ); physical/indirect ( $r = .84/.94$ ); and verbal/indirect ( $r = .91/.95$ ). The number of same-sex peer nominations on the items were summed and divided by the number of same-sex peer raters within each class.

### Self-Report Parental Personal Adaptation

Three separate dimensions of parental psychosocial adjustment that have been employed as predictors of children's maladjustment were included in the study: (1) parental antisocial behavior; (2) marital hostility; and (3) parental child-rearing behavior.

Parental antisocial behavior. Measures of self-reported behavior problems and delinquency were obtained from both mothers and fathers separately with a questionnaire developed by Leblanc, McDuff and Frechette (1991). The questionnaire, shown in Appendix G, consists of two major scales. For the purpose of this study the questions were modified to include both past and present involvement in behavior problems and delinquency. The behavior problem scale (21 items) covers the subject's involvement in family rebellion and aggression, school delinquency, school adjustment, sexual promiscuity, drug and alcohol abuse, and victimization. The delinquency scale (30 items) measures the subject's involvement in aggression, delinquency, minor theft, theft over 100 \$ and vandalism. For each question there was a possibility of four answers: (1) never; (2) once or twice; (3) sometimes; (4) often. Each scale has high reliability and sufficient concurrent, discriminant, and predictive validity. For the purpose of this study only items pertaining to the delinquency scale was used as an indicator of "antisocial behavior". An average mean score was computed for each participant with higher scores scale reflecting more extreme levels of antisocial and behavior problems. Responses were internally consistent, but more so for fathers (N = 160; alpha = .85) than for mothers (N = 190 ; alpha = .67).

Marital hostility. Marital hostility was assessed by means of a French translation of the O'Leary-Porter Scale (OPS). This scale measures overt marital hostility displayed in front of the target child (Porter & O'Leary, 1980; Emery & O'Leary, 1982). This measure

was selected because standard, global measures of marital conflict correlate weakly with child behavior problems in community samples. Also, the OPS assesses specific aspects of marital functioning, such as parental disputes about child rearing, and therefore can lead to a more fine-grained understanding of this association (Jourilles et al., 1987 ). The original version of the OPS consisted of nine scored items and eleven filler items. A revised version consists of 10 items, which has parents rate the frequency of various triggers and forms of marital hostility, such as arguments over finances and physical hostility, that take place in front of the target child. Eight items are scored on a 5-point Likert-type scale ranging from never (0) to very often (4). Responses on the remaining items range from less than 10% of the time (0) to 75% of the time (4). Total scores range from 0 to 36, with a high score representing high level of hostility expressed in front of the target child. Test-retest reliability of the original version in a sample of 14 parents over a two-week period was .96 (Porter & O'Leary, 1980). A validity correlation coefficient of .63 was obtained between the OPS and the Locke Wallace Short Marital Adjustment test (Locke & Wallace, 1959). Appendix H presents the French version of the OPS questionnaire.

In the present study, each parent provided information separately for him or herself, and not for the dyad as a unit. Accordingly, a mean score of marital hostility was computed separately for each parent, based on the total summed score of the 10 items. Items on the OPS showed high internal consistency, with an alpha coefficient of .83 for fathers (N = 156) and .84 for mothers (N = 176). Agreement between mothers and fathers was in the satisfactory range ( $r = .68$ ) but increased considerably when measurement error was corrected ( $r = .81$ ).

Parental Acceptance-Rejection. Child-rearing behavior was assessed with a French version of the Parental Acceptance-Rejection Self-Report Questionnaire (PARQ; Rohner, 1991), shown in Appendix I. The PARQ has mothers and fathers rate independently

statements describing the way they behave with their child. The scale assesses four points associated with the following headings: Almost Always True (of me); Sometimes True; Rarely True; Almost Never True. The PARQ questionnaire has four subscales: (1) warmth-affection (20 items), hostility-aggression (15 items), neglect (15 items), and rejection (10 items). Most of the items in the questionnaire refer to behaviors rather than attitudes. In a sample of 15 mothers with a child between six to eleven years of age, Rohner and Courmoyer (1975) obtained the following coefficient alphas as indices of internal consistency: warmth/affection (.85); hostility/ aggression (.80); neglect/indifference (.74); rejection (undifferentiated) (.67).

Alpha coefficients for the French version of the PARQ in this study were as follows for mothers (N = 183) and fathers (N = 153) respectively: warmth/affection (.84 and .85); hostility/ aggression (.83 and .85); neglect/indifference (.68 and .72); rejection (.72 and .77). In general, internal consistencies for mother-reported child-rearing behaviors were slightly lower than those found for fathers. In the present study, the items that pertained to rejecting/hostile child-rearing behaviors (scales of hostility/aggression and rejection) were summed and the mean score for each subject was included in analyses as the measure of "dysfunctional parenting". For this index, a Cronbach alpha of .88 and .90 was obtained for mothers and fathers, respectively.

### Procedure

Group-administered peer evaluation was conducted in 16 classrooms. Each of the classrooms was visited by the experimenter and a research assistant who told the children that a survey was being conducted to "find out what kind of behaviors boys and girls do at different ages and in different grades". They were asked to think about their own behaviors

and the behaviors of their same-sex classmates. They were asked not to discuss their opinions with others. They were assured of the confidentiality of their answers.

An item by same-sex peer matrix was presented to each child. The format enables all children to be rated one item at a time. Thereby reducing the possibility of bias or set that can develop when one child is rated on all items at a time (Pekarik et al., 1976). The peer matrix included the previously reported PEI and DIAS items (see Appendix J). The items were listed down the left side of the page and the names of same-sex peer classmates were presented across the top of the page. The subject rated himself or herself last on each item.

After explaining the procedure, the research assistant led students through a sample item of the peer assessment questionnaire, and remained available to provide assistance. Peer assessment took on average 35 minutes (range 15 to 60 minutes) to complete in each classroom. Students who completed the procedure before the others were given a quiet activity to do at their desks. Each participating classroom received 25 \$.

Following completion of the peer assessment questionnaires, the children were requested to bring home to their parents a package containing the following: (1) a letter of consent describing the study, (2) two sets of questionnaires (one for mother or mother figure and the other for father or father figure) and, (3) a stamped return envelope. Both parents were invited to participate in the study and were asked to complete the paper-and-pencil measures separately. Parents were encouraged to participate even when only one parent was available for the family assessment study.

The estimated duration of questionnaire completion was 120 minutes for each parent. Parents were assured of the confidentiality of their responses. Mothers and fathers who returned the package each received 15 \$.



## RESULTS

### Gender differences in aggressive strategy use

To investigate sex differences in strategies of aggression, mean differences in the same-sex peer ratings of physical, verbal and indirect aggression were examined. A 3 (strategy of aggression) X 2 (sex) repeated-measures MANOVA was conducted. The means and standard deviations for boys and girls aggressive strategy use are presented in Table 1. The findings indicated significant multivariate main effects for sex,  $F(1, 404) = 24.59, p < .001$ , and for aggressive strategy use,  $F(2, 403) = 452.36, p < .001$ . There was also a significant sex by aggressive strategy use interaction,  $F(2, 403) = 156.84, p < .001$ , indicating that the types of aggressive strategy use were not equally displayed by boys and girls.

The nature of this interaction is revealed more clearly in Figure 2 which plots the means for each aggressive strategy as a function of sex. First, sex differences were examined within each aggressive strategy (i.e., down the columns of Table 1) using oneway ANOVAs. Results indicated that boys rated same-sex peers as significantly displaying more physical aggression,  $F(1, 404) = 60.10, p < .001$ , and more verbal aggression,  $F(1, 404) = 30.64, p < .001$ , than girls. However, boys and girls were rated by same-sex peers as displaying similar levels of indirect aggressive behavior.

In the next step, separate oneway Anovas were conducted to examine differences in aggressive strategy use within each sex (i.e., across the rows of Table 1). The analyses indicated significant differences between strategy use for boys,  $F(1, 200) = 897.85, p < .001$ , as well as for girls,  $F(1, 204) = 617.68, p < .001$ . In particular, post-hoc paired comparisons T-Test indicated that for boys, verbal aggression ( $M = 1.54; SD = .69$ ) was

Table 1

Means and Standard Deviations of Physical, Verbal and Indirect Strategies of Aggression.

	Physical	Verbal	Indirect
Boys (N=201)	1.25 (.68)	1.54 (.69)	1.02 (.49)
Girls (N=205)	0.77 (.55)	1.18 (.64)	1.00 (.57)

*Note:* Rating scales range from 1 to 4. High numbers indicate more elevated same-sex peer ratings of this strategy.

more frequently used than physical ( $M = 1.25$ ;  $SD = .68$ ) or indirect aggression ( $M = 1.02$ ;  $SD = .49$ ). The latter (i.e., indirect aggression) was less frequently used than physical aggression. For girls, verbal aggression ( $M = 1.18$ ;  $SD = .64$ ) was also more used than physical ( $M = 0.77$ ;  $SD = .55$ ) or indirect aggression ( $M = 1.00$ ;  $SD = .55$ ). However, in contrast to boys, physical aggression was displayed significantly less often than indirect aggression. These findings suggest that important differences between girls' and boys' aggressive behavioral styles may be overlooked if comparisons are restricted only to between-gender effects. As seen in Figure 2, despite boys' and girls' differential use of aggressive strategies, boys and girls rated the importance of these strategies differently. In particular, although both boys and girls received more same-sex peer ratings of verbal aggression, boys were more frequently rated for physical than for indirect aggressive behavior, whereas girls were more frequently rated for indirect than physical forms of aggressive behavior.

#### Patterns of aggression and psychosocial adjustment

In order to assess the relation between strategies of aggression and psychosociological adjustment difficulties in children, hierarchical regression analyses were conducted in which gender and peer-reported aggressive strategies (i.e., physical, verbal, indirect) served as the predictor variables and children's scores on peer and parental reports of psychosocial adjustment served as the dependent variables. In addition to testing the main effects of gender and aggressive strategies on children's adjustment difficulties, we examined whether interactions between their scores contributed uniquely to the prediction of the dependent variables over and above the variance accounted for by gender and the aggressive strategies. Specifically, three blocks of predictors were systematically entered into each equation in a prescribed hierarchical order. Sex (block 1) was entered

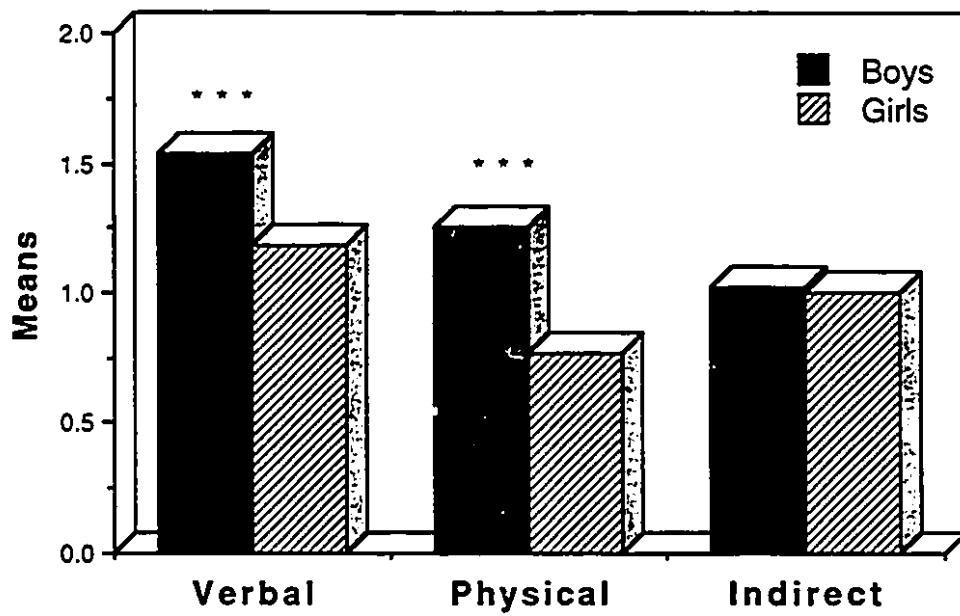


Figure 2. - Mean same-sex peer ratings on physical, verbal and indirect aggression as a function of the child's sex.

Note : \*\*\* =  $p < .001$

first, followed by the three peer-rated aggressive strategies (block 2). Next, interactions between sex and each predictor were considered (block 3) in order to evaluate whether they significantly increased the variance accounted for in the dependent variables. Given our interest in assessing a broad range of children's adjustment difficulties, regressions were conducted for each of the three psychosocial adjustment dimensions examined in the present study: a) parental and peer reports of externalizing behavior problems; b) parental and peer reports of internalizing behavior problems; and c) peer-reported likeability and parental-reported social behavior problems.

#### Strategies of Aggression and Externalizing Behavior Problems

As stated previously, physical strategies of aggression were posited to lead to children's externalizing social difficulties. Specifically, we expected physical aggression in both boys and girls to be related to peer reports of global aggression (i.e., PEI aggressive scale) as well as to parental reports of aggressive and delinquent behavior problems (i.e., CBCL externalizing subscales). However, we expected physically aggressive girls to be at greater risk than boys for impaired social functioning. In particular, we expected physically aggressive girls to be more disliked by same-sex peers and to be rated higher on parent-reported social problems than physically aggressive boys.

Each of the five measures of children's externalizing problems (i.e., peer-rated aggression, mother and father reports of aggression as well as delinquency) were used as dependent variables. The summary table for peer and parental reports of children's externalizing problems is shown in Table 2.

Table 2.

Hierarchical Regression Analyses Predicting Peer and Parental Reports of Externalizing Problems In Children.

Outcome	Step	CumulR <sup>2</sup>	R <sup>2</sup> change	Predictor	sr <sup>2</sup>	Beta
1)Aggression (peer-rated)	1	.07***	.07***	SEX	.26	.26***
	2	.97***	.90***	PHYS	.18	.51***
				VERB	.11	.36***
IND	.05	.15***				
2)Aggression (mother-rated)	1	.07***	.07***	SEX	.27	.27***
	2	.23***	.16***	PHYS	.15	.42*
				VERB	.11	.36 <sup>t</sup>
IND				-.14	-.38*	
3)Aggression (father-rated)	1	.05**	.05**	SEX	.23	.23**
	2	.22***	.16***	PHYS	.05	.14
				VERB	.07	.24
IND				.02	.05	
4)Delinquency (mother-rated)	1	.02*	.02*	SEX	.15	.15*
	2	.19***	.16***	PHYS	.16	.46*
				VERB	-.06	-.20
IND				.06	.17	
5)Delinquency (father-rated)	1	.01	.01	SEX	.12	.12
	2	.22***	.21***	PHYS	.01	.03
				VERB	-.06	-.20
				IND	.22	.60**
	3	.28***	.06**	SexPHYS	-.22	-1.04***
				SexVERB	.10	.49
SexIND				.04	.17	

*Note:* PHYS = Physical, VERB = Verbal, IND = Indirect aggressive strategies. Only significant steps are reported.

<sup>t</sup>p < .10; \*p < .05; \*\*p < .01; \*\*\*p < .001.

Peer ratings of aggression. Analyses of children's peer-assessed aggressive behavior, yielded a significant main effect for sex,  $R^2 = .07$ ,  $F(1, 404) = 29.71$ ,  $p < .001$ , and a significant main effect for aggressive strategies,  $R^2 = .97$ ,  $F(4, 404) = 2994.25$ ,  $p < .001$ . Specifically, boys were viewed by same-sex peers as significantly more aggressive than girls. Although the three aggressive strategies were significant in predicting same-sex peer ratings of aggression, physical (beta = .51) and verbal (beta = .36) patterns of aggression contributed to a greater extent than indirect aggression (beta = .15). Addition of gender and aggressive strategies interaction terms did not significantly improve  $R^2$ , thus indicating that the impact of the three aggressive strategies on same-sex peer ratings of aggression was not accounted for by gender.

Parental-reports of aggression. The second regression equation examined whether gender and patterns of aggressive behavior predicted maternal reports of aggression. The significant gender effect,  $R^2 = .07$ ,  $F(1, 187) = 14.35$ ,  $p < .000$ , indicated that mothers viewed sons (beta = .27) as more aggressive than daughters. Each of the three aggressive strategies made a unique contribution to the prediction of maternal reports of aggression,  $R^2 = .23$ ,  $F(4, 184) = 13.46$ ,  $p < .000$ . Specifically, both physical (beta = .42) and verbal (beta = .36) aggression were each positively related to maternal-reported aggression. However, indirect aggression (beta = -.38) was negatively associated with maternal reports of aggressive behavior. These effects held for boys and girls; there were no significant interaction effects.

Turning to paternal perceptions of children's aggressive behavior, the data revealed a significant main effect for sex,  $R^2 = .05$ ,  $F(1, 156) = 8.79$ ,  $p < .01$ , and an additional main effect for aggressive strategies,  $R^2 = .22$ ,  $F(4, 153) = 10.55$ ,  $p < .001$ . As was the case with peer and maternal reports of aggression, fathers perceived their sons (beta = .23) as more aggressive than their daughters. There were no significant differences between the three strategies of aggression, although physical (beta = .14) and verbal (beta = .24)

aggression contributed to a greater extent than did indirect (beta = .05) means of aggression to paternal reports of children's aggressive behavior. Effects associated with interaction terms were not significant.

Parental-reports of delinquency. Mother reports of children's delinquency also yielded a significant sex effect  $R^2 = .02$ ,  $F(1, 187) = 4.20$ ,  $p < .05$ , which indicated that boys (beta = .15) were generally viewed by mothers as more delinquent than girls. Delinquency was also found to be determined by aggressive strategies,  $R^2 = .17$ ,  $F(4, 184) = 10.55$ ,  $p < .001$ . Specifically, there was a significant effect for physical aggression (beta = .46). This effect held for both boys and girls because interactions were not significant.

The regression analyses conducted on father-reports of children's delinquency yielded no significant main effect for sex. There was a significant interaction effect, however,  $R^2 = .28$ ,  $F(7, 150) = 8.45$ ,  $p < .001$ , in which physically aggressive daughters (beta = -1.04) were viewed by fathers as significantly more delinquent than physically aggressive sons.

### Strategies of aggression, social withdrawal, and internalizing difficulties

In the next step, we assessed the links between same-sex peer and parental reports of internalizing behavior problems in children. Summary of findings are reported in Table 3.

Peer ratings of passive withdrawal. Analyses of peer ratings of passive withdrawal, yielded a main effect for sex,  $R^2 = .02$ ,  $F(1, 404) = 4.68$ ,  $p < .05$ , and a main effect for aggressive strategies,  $R^2 = .09$ ,  $F(4, 401) = 10.05$ ,  $p < .001$ . In effect, same-sex peers viewed girls (beta = -.11) as more socially withdrawn than boys. In line with our expectations, indirect strategies of aggression (beta = .50), were more predictive of peer



Table 3.

Hierarchical Regression Analyses Predicting Peer and Parental Reports of Internalizing Problems In Children.

Outcome	Step	CumulR <sup>2</sup>	R <sup>2</sup> change	Predictor	sr <sup>2</sup>	Beta
1)Withdrawal (peer-rated)	1	.01*	.01*	SEX	-.11	-.11*
	2	.09***	.08***	PHYS	-.02	-.06
				VERB	-.19	-.65***
IND	.17	.50***				
	3	.11***	.02 <sup>t</sup>	SexPHYS	-.07	-.30 <sup>t</sup>
				SexVERB	.02	.08
				SexIND	.07	.28 <sup>t</sup>
2)Somatic/ Problems (mother-rated)	3	.08*	.04*	SexPHYS	-.09	-.41 <sup>t</sup>
				SexVERB	-.03	-.16
				SexIND	.06	.21
3)Somatic/ Problems (father-rated)	3	.08*	.05*	SexPHYS	-.13	-.60 <sup>t</sup>
				SexVERB	-.03	-.12
				SexIND	.08	.32
4)Anxiety/ Depression (mother-rated)	1	.02 <sup>t</sup>	.02 <sup>t</sup>	SEX	.13	.13 <sup>t</sup>
	2	.05 <sup>t</sup>	.03 <sup>t</sup>	PHYS	.14	.41*
				VERB	-.03	-.11
				IND	-.05	-.17

*Note:* PHYS = Physical, VERB = Verbal, IND = Indirect aggressive strategies. Only significant steps are reported.

<sup>t</sup>p < .10; \*p < .05; \*\*p < .01; \*\*\*p < .001.

ratings of socially withdrawn behaviors; whereas verbal aggression (beta = -.65) was a negative predictor of social withdrawal. However, there was a marginal trend effect in the interaction analyses,  $R^2 = .10$ ,  $F(7, 398) = 6.62$ ,  $p < .001$ , which indicated that the heightened use of indirect aggression by boys (beta = .28) was more predictive of same-sex peer reports of social withdrawal than it was for girls. In contrast, physical aggression was a stronger negative predictor of social withdrawal (beta = -.30) for girls than for boys. There was no significant main or interactional effects for maternal or paternal reports of children's social withdrawal as predicted by aggressive strategy use.

Parental-reports of somatic problems. Analyses of somatic behavior problems indicated that there was no main effect for either sex of the child or aggressive strategy use for maternal reports. When the effects of the interactions were taken into account, however, there was a significant interaction effect,  $R^2 = .08$ ,  $F(7, 181) = 2.16$ ,  $p < .05$ . As expected, there was a trend indicating that mothers viewed their physically aggressive daughters as experiencing more somatic problems (beta = -.42) than their physically aggressive sons.

Father reports of somatic problems in children did not yield significant main effects for sex or aggressive strategies. As was the case with maternal reports, however, results indicated a marginal significant interaction effect of sex and aggressive strategy style,  $R^2 = .08$ ,  $F(7, 150) = 1.80$ ,  $p < .10$ . Specifically, physically aggressive daughters (beta = -.60) were viewed by fathers as experiencing more somatic difficulties than physically aggressive sons.

Parental-reports of anxiety and depression. Analyses of maternal reports of anxious/depressed behavior problems in children, yielded a trend effect for sex,  $R^2 = .02$ ,  $F(1, 187) = 3.28$ ,  $p < .10$ . There was also a marginal effect for aggressive strategies,  $R^2 = .06$ ,  $F(4, 184) = 2.18$ ,  $p < .10$ . In contrast to our expectations, these effects indicated that mothers viewed sons (beta = .14) as moderately more anxious and depressed than daughters. The main effects for aggressive strategies indicated that mothers viewed

physically aggressive children as more anxious and depressed than children who displayed either verbal or indirect aggression. There were no additional significant interaction effects. Analyses of fathers' reports of children's anxious/depressed behavior problems yielded no significant main or interaction effects.

#### Strategies of aggression, likeability, and interpersonal social behavior problems

The following regressions examined the contribution of sex and aggressive strategy use to the prediction of peer likeability and parental reports of children's social behavior problems. The results are shown on Table 4.

Peer ratings of likeability. The regression analyses conducted on peer reports of likeability yielded a significant main effect for sex,  $R^2 = .02$ ,  $F(1, 404) = 6.29$ ,  $p < .05$ , and a significant main effect of aggressive strategies,  $R^2 = .23$ ,  $F(4, 401) = 30.69$ ,  $p < .001$ . Girls ( $\beta = -.12$ ), in general, rated same-sex peers more favourably than did boys, and both physical ( $\beta = -.31$ ) and indirect ( $\beta = -.27$ ) aggressive strategy use were predictive of negative approbation from same-sex peers. Analyses of interaction effects indicated that the main effects varied as a function of sex and of aggressive behavioral style,  $R^2 = .25$ ,  $F(7, 398) = 19.38$ ,  $p < .001$ . In line with the gender-risk paradox model (Eme, 1979; 1992; Schwartzman et al., in preparation) and individual-group similarity and dissimilarity hypotheses (Boivin et al., 1995; Wright et al., 1995), results indicated that physically aggressive girls ( $\beta = .30$ ) were less liked by same-sex peers than physically aggressive boys; whereas the heightened use of indirect aggression for boys ( $\beta = -.37$ ) was more predictive of being dislike by same-sex peer than it was for girls.

Table 4.

Hierarchical Regression Analyses Predicting Same-Sex Peer Reports of Likeability and Parental Reports of Social Behavior Problems In Children.

Outcome	Step	CumulR <sup>2</sup>	R <sup>2</sup> change	Predictor	sr <sup>2</sup>	Beta
1)Acceptance (peer-rated)	1	.02*	.02*	SEX	-.12	-.12*
	2	.23***	.22***	PHYS	-.11	-.31*
				VERB	.03	.09
				IND	-.09	-.27*
	3	.25***	.02*	SexPHYS	.07	.30 <sup>t</sup>
				SexVERB	.00	.12
SexIND				-.10	-.37*	
2)Social/ Problems (mother-rated)	1	.03*	.03*	SEX	.18	.18*
	2	.13***	.10***	PHYS	.18	.49*
				VERB	.08	.26
IND				-.17	-.48*	
3)Social/ Problems (father-rated)	1	.02 <sup>t</sup>	.02 <sup>t</sup>	SEX	.13	.13 <sup>t</sup>
	2	.07*	.05*	PHYS	.03	.09
				VERB	.08	.29
				IND	-.05	-.15
	3	.09*	.02	SexPHYS	-.15	-.71*
				SexVERB	.05	.22
SexIND				.06	.27	

*Note:* PHYS = Physical, VERB = Verbal, IND = Indirect aggressive strategies. only significant steps are reported.

<sup>t</sup>p < .10; \*p < .05; \*\*p < .01; \*\*\*p < .001.

Parental-reports of interpersonal social problems. The analyses of mother's perceptions of children's social problems yielded a significant main effect for gender,  $R^2 = .03$ ,  $F(1, 187) = 5.91$ ,  $p < .05$ , and a significant main effect for aggressive strategies,  $R^2 = .13$ ,  $F(4, 184) = 6.71$ ,  $p < .001$ . Specifically, mothers viewed boys ( $\beta = .18$ ) as experiencing more interpersonal social problems than girls. In addition, physically aggressive children ( $\beta = .49$ ) were positively related to maternal perceptions of interpersonal social behavior problems; whereas indirect aggression ( $\beta = -.48$ ) was negatively related to maternal reports of social behavior problems in offspring. The main effects held for boys and girls, as there was no significant interactions.

Father reports' of children's interpersonal social problems, also yielded a marginal effect of gender,  $R^2 = .02$ ,  $F(1, 156) = 2.83$ ,  $p < .10$ , and a significant effect for aggressive strategies,  $R^2 = .07$ ,  $F(4, 153) = 2.73$ ,  $p < .05$ . The main sex effect indicated that boys ( $\beta = .13$ ) were generally more likely to be rated by fathers as exhibiting interpersonal social problems than girls. However, the contribution of sex was moderated by form of aggressive strategy,  $R^2 = .09$ ,  $F(7, 150) = 2.17$ ,  $p < .05$ , the plot of the regression line indicating that fathers viewed physically aggressive girls ( $\beta = -.71$ ) as experiencing greater interpersonal behavior problems than physically aggressive boys.

#### Linking family functioning to externalizing behavior problems in children

Family Economic Status. It was next of interest to assess the links between parental functioning and children's externalizing behavior problems. As a first step, we wanted to control for the unique contribution of family economic status. To control for the effect of family economic status (SES), hierarchical multiple regression models were employed. This approach permitted assessment of the influence of parental functioning (i.e., antisocial behavior, marital hostility and dysfunctional parenting) on children's externalizing

problems beyond that of SES. As reported previously (see method section), parental education was used as the measure to describe parental economic status. Regression analyses were conducted separately for mothers and fathers. The summary tables for mothers and fathers are shown in Table 5 and 6, respectively.

Results indicated that although maternal (2.5%) and paternal (8.1%) education contributed significantly to the prediction of children's externalizing problems, the addition of the parental functioning variables in the hierarchical regression equation retained for structural equation modeling, resulted in a significant increment in variance explained in both models. That is, the addition of the three maternal personal functioning variables explained an additional 30% of the variance of children's externalizing difficulties. For fathers, results were similar, in which paternal personal functioning problems explained an additional 25% of the variance of children's difficulties above the influence of education attainment. When the entry sequence of these variables was reversed, that is when parental functioning variables were entered in the first step and parental education in the second step, maternal and paternal levels of education were not significant factors in the prediction for children's externalizing difficulties. Therefore, parental education was omitted as a variable from the structural equation model as it did not predict above and beyond the parental functioning variables.

### Descriptive Analyses

In the following section we examine mothers' and fathers' personal adjustment and parenting behavior in relation to the externalizing difficulties and gender of their children. Each observed predictor was measured directly by one indicator (mother or father), the outcome variable "externalizing behavior problems", however, was measured by same-sex peer reports of global aggression, as well as with mother and father reports of externalizing

Table 5

Hierarchical Regression of Maternal Influences on Children's Externalizing Problems(N=189)

Variables	beta	r	sr <sup>2</sup>	t	r <sup>2</sup> ch	Fch
<u>Step 1:</u>					.05	9.72**
Education	-.23	-.23	-.23	-3.11**		
<u>Step 2:</u>					.55	77.52***
Antisocial behavior	.67	.75	.63	13.01***		
Marital Hostility	-.02	.17	.01	-0.40		
Dysfunctional Parenting	.19	.43	.17	3.56***		
<u>Total equation following Step 2:</u>						
	R = .77		R <sup>2</sup> adj = .59		F = 63.89***	

Note: \*\*\* = p &lt; .001, \*\* = p &lt; .01, \* = p &lt; .05

Table 6

Hierarchical Regression of Paternal Influences on Children's Externalizing problems(N = 153)

Variables	beta	r	sr <sup>2</sup>	t	r <sup>2</sup> ch	Fch
<u>Step 1:</u>					.09	14.58***
Education	-.30	-.30	-.30	-3.81***		
<u>Step 2:</u>					.49	54.02***
Antisocial behavior	.71	.78	.68	12.36***		
Marital Hostility	-.03	.17	-.03	-0.58		
Dysfunctional Parenting	.08	.22	.07	1.32 <sup>t</sup>		
<u>Total equation following Step 2:</u>						
	R = .76		R <sup>2</sup> adj = .57		F = 48.18***	

Note: \*\*\* = p < .001, \*\* = p < .01, \* = p < .05, t = p < .10



behavior problems. The scores from the three informant sources were summed and the mean score was then standardized and converted to a global z-score.

The maternal and the paternal zero-order correlation matrix of each observed variable, considered separately for boys and girls, are presented in Table 7. It includes the intercorrelations for the following constructs: parental antisocial behavior, marital hostility, dysfunctional parenting and children's externalizing behavior problems. The means and standard deviations of the indicators are shown in Table 8. Inspection of the correlations within the mothers sample reveals the structure of the data to be similar for boys and girls. For both boys and girls, mother's antisocial behavior correlates with dysfunctional parenting practices ( $r_s = .41$  and  $.36$ , respectively), and is strongly associated with global (i.e., peer and parents) reports of children's externalizing behavior problems (boys:  $r = .71$  and girls:  $r = .79$ ). Similarly, mothers report of marital hostility was associated with dysfunctional parenting for both boys ( $r = .41$ ) and girls ( $r = .44$ ) and was moderately associated with their children's externalizing behavior problems (boys:  $r = .17$  and girls:  $r = .18$ ). The correlation between dysfunctional parenting and child related behavior problems was strong, ranging from  $.43$  for boys to  $.52$  for girls.

The pattern of intercorrelations among the predictors of their children externalizing difficulties revealed some similar patterns in fathers. The externalizing difficulties of their sons ( $r = .66$ ), as well as their daughters ( $r = .82$ ) were strongly associated with self-reported antisocial behavior and was related to dysfunctional parenting with sons ( $r = .47$ ) but not reliably so with daughters ( $r = .11$ ). Fathers' reports of marital hostility was related to dysfunctional parenting for both boys ( $r = .48$ ) and girls ( $r = .29$ ), but was not significantly linked to children externalizing behavior (boys:  $r = .22$  and girls:  $r = .14$ ). Finally, paternal dysfunctional parenting was related only to sons externalizing problems ( $r = .51$ ). This was not the case for daughters ( $r = .13$ ).

Table 7.

Correlational Structure for the Multisample Structural Equation Model

MOTHERS	V1	V2	V3	V4
V1. Antisocial behavior	—	.13	.36**	.79**
V2. Marital Hostility	.23*	—	.44**	.18
V3. Dysfunctional Parenting	.41**	.29**	—	.52**
V4. Externalizing Behavior	.71**	.17	.43**	—

*Note:* Values for boys (n = 92) are below the diagonal and for girls (n = 97) above the diagonal.

FATHERS	V1	V2	V3	V4
V1. Antisocial behavior	—	.19	.11	.82**
V2. Marital Hostility	.28*	—	.29*	.14
V3. Dysfunctional Parenting	.47**	.48**	—	.13
V4. Child Aggression	.66**	.22	.51**	—

*Note:* Values for boys (n = 77) are below the diagonal and for girls (n = 81) above the diagonal.

\* p <.05, \*\* p <.01.

Table 8.

Descriptive Statistics for Multisample Structural Equation Model by Gender

	Boys		Girls	
	M	SD	M	SD
<b><u>MOTHERS</u></b>				
Antisocial Behavior	1.79	1.89	1.25	1.77
Marital Hostility	11.94	3.63	12.41	4.45
Dysfunctional Parenting	41.25	8.31	40.25	9.81
Child externalizing Behavior	0.30	0.95	-0.22	0.88
<b><u>FATHERS</u></b>				
Antisocial Behavior	1.65	1.40	1.25	1.86
Marital Hostility	12.01	3.56	12.35	4.43
Dysfunctional Parenting	41.62	9.26	39.83	10.76
Child externalizing Behavior	0.30	0.95	-0.22	0.88

### Structural equation modeling

In the next section we examine the links between parental functioning and children's externalizing behavior problems. Our two hypothesized models predicting child's externalizing behaviors includes: parental antisocial behavior and marital hostility as the predictors, and dysfunctional child-rearing behaviors, as the mediating variable. The latter is conceptualized as the variable that mediates (a) the link between parental antisocial behavior and the child's externalizing behavior, and (b) the link between marital hostility and child's externalizing behavior.

As previously shown in Figure 1 (see path diagrams on page 19), Model A assumes that parental antisocial behavior and marital hostility indirectly influence children's externalizing behaviors through the independent effect of the mediator: dysfunctional child-rearing behaviors. Model B includes the variables of Model A, but allows for additional direct links stemming from parental antisocial behavior and marital hostility to assessments of child's externalizing behavior.

To test for both the direct and mediated relations, path parameters (i.e. links between two specified observed variables) were estimated using the EQS structural equation modeling (SEM) program (Bentler, 1989). Based on these equations, the chi-square goodness-of-fit test indicates which model better describes the variance-covariance matrices of the sample. To determine the generalizability of the maternal and paternal model for both sons and daughters, a multisample approach<sup>1</sup> to model testing was used (Bentler, 1990b). The aim of the multisample approach was to verify the existence of a single model that accurately described both the girls and the boys samples simultaneously (i.e., all links or parameter estimates of interest across both samples were assumed to be equal).

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<sup>1</sup> In multisample analysis, several data sets are analyzed simultaneously.

However, prior to testing hypotheses related to invariance, it was considered more appropriate first to establish a baseline model<sup>2</sup> for each group separately (Byrne, Shavelson, and Muthen, 1989). The question to be answered by the baseline model is whether or not the model "fits" the data obtained for both girls and boys. An acceptable model would indicate a chi-square value that is low for a given number of degrees of freedom, with a corresponding *p* value greater than the preset significance level, as well as above .90 descriptive goodness-of-fit indexes of the: (a) normed fit index (NFI); (b) nonnormed fit index (NNFI); and (c) comparative fit index (CFI) (see Raykov, Tomer, & Nesselroade, 1991, for review)

The presentation of results that follows is divided into two sections. First, we examine measures of mothers' personal psychosocial functioning, then we examine the same model using fathers' reports of personal adaptation as predictors of boys and girls externalizing difficulties.

#### Mother's psychosocial difficulties as predictors of children's externalizing difficulties.

Social-Interactional Model. As noted earlier, the first model (see Model A, Figure 1) specified indirect paths from each of the observed variables (antisocial behavior and marital hostility) to the child's externalizing behavior via the influence of dysfunctional parenting. Thus, it presumed, that the occurrence of externalizing difficulties in children was fully accounted for by dysfunctional parenting.

Both predictors (i. e., antisocial behavior and marital hostility) were expected to covary with one another; that is, the factors were hypothesized to be correlated. In effect,

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<sup>2</sup> A baseline model represents the best fitting one to the data both from the perspective of parsimony and from the perspective of substantive meaningfulness for each group separately.

the covariance between mothers antisocial behavior and marital hostility was modest, but was statistically reliable for girls ( $t = 2.05, p < .05$ ) and boys ( $t = 2.05, p < .05$ ).

Results of  $\chi^2$  statistic and Comparative Fit Indices (CFI) displayed in the maternal goodness-of-fit summary (see Table 9), indicated that Model A is clearly indicative of an ill-fitting model. Bentler-Bonett fit indices revealed a poor fit of the data for girls:  $\chi^2(2, 95) = 80.13, p < .001, NFI = .44, NNFI = -.71, CFI = .43$ , and also for boys:  $\chi^2(2, 97) = 48.63, p < .001, NFI = .47, NNFI = -.62, CFI = .46$ . Therefore, the model did not provide favourable evidence in support of the prediction that maternal dysfunctional child-rearing behaviors fully mediated the influences of maternal antisocial behavior and marital hostility on children's externalizing behavior.

Social Learning Model. The second model, Model B, assessing the direct and indirect impact of parental difficulties on children's externalizing difficulties is also presented in Figure 1 (see page 19). As stated earlier, this model stipulated that beyond the mediating influence of dysfunctional parenting, antisocial behavior and marital hostility would have additional direct links with children's externalizing behavior problems. However, in order to estimate this path model, we could not allow the predictor variables (i.e. maternal antisocial behavior and marital hostility) to covary because of lack of degrees of freedom. That is, if we allowed the predictors to covary, Model B would be "just-identified". A just-identified model is one in which there is a one-to-one correspondance between the data and the number of parameters to be estimated. This model is not scientifically interesting because it has no degrees of freedom and therefore can never be rejected (Byrne, 1994). Covariance between the predictor variable in this model, therefore, was omitted. As shown in Table 9, estimation of model B resulted in a significant improvement over Model A. That is, specification of the two additional direct links of

Table 9.

Summary of steps of Goodness-of-Fit Statistics for Models of Mother-Daughter and Mother-Son Dyads.

Maternal Models	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	$\chi^2/df$	CFI
Girls						
0. Null Model	143.15	6	--	--	--	--
1. Model A	80.13	2	--	--	--	0.43
2. Model B	1.60	1	78.56***	1	78.56	1.00
3. Revised Model	0.32	1	1.28	--	0.32	1.00
Boys						
0. Null Model	92.48	6	--	--	--	--
1. Model A	48.63	2	--	--	--	0.48
2. Model B	4.84	1	43.79***	1	4.84	0.96
3. Revised Model	0.14	1	3.70	-	0.14	1.00

Note: \*\*\*p < .001

$\Delta\chi^2$  = difference in  $\chi^2$  between models

$\Delta df$  = difference in degrees of freedom between models

$\chi^2/df$  =  $\chi^2$  difference accounting for degrees of freedom

CFI = Comparative Fit Indices

maternal antisocial behavior and marital hostility to children's externalizing problems resulted in a highly significant drop in  $\chi^2$  values between the Model A and Model B, yielding a significant  $\chi^2$  difference ( $\chi^2$  difference = 78.56,  $p < .001$ ). Goodness-of-fit indices provided further evidence of the better fitting model for boys:  $\chi^2(1, 90) = 4.84$ ,  $p < .03$ , NFI = .95, NNFI = .74, CFI = .96, and for girls:  $\chi^2(2, 95) = 1.60$ ,  $p = .20$ , NFI = .99, NNFI = .98, CFI = 1.00. As expected, however, non-specification of covariance between the predictors (i.e., maternal antisocial behavior and marital hostility) resulted in average covariance residuals<sup>3</sup> above the .05 level for these measures (Byrne, 1994). In other words, although the global fit of the model was adequate, there was a small degree of misfit related to the two predictor variables, especially for boys. In addition, evaluation of the individual links between observed variables suggested a respecification and simplification of the model.

In particular results indicated negligible contribution of the path parameter from marital hostility to child's externalizing behavior problems for both girls ( $t = -.26$ ) and boys ( $t = -.36$ ). These associations were well below the standard normal critical t-value of 1.96 associated with normal z-test .05 probability levels<sup>4</sup>. According to Byrne (1994), paths in structural equation modeling, that are non-significant and that do not effect the model fit, should be omitted from further analyses because they reduce statistical power. Accordingly, the direct path from marital hostility to children's externalizing difficulties was omitted from further analyses.

Revised Model. As we gained one degree of freedom from the deleted path parameter specified previously, the two predictor variables were again allowed to covary.

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<sup>3</sup> Covariance residuals represents the discrepancy between the hypothesized model and the observed data. Given that a model describes the data well, these values should be small and evenly distributed.

<sup>4</sup> The test statistic here represents the parameter estimate divided by its standard error; as such, it operates as a z statistic in testing that the estimate is statistically different from zero. Based on an  $\alpha$  level of .05, the test statistic needs to be greater than 1.96 before the null hypothesis can be rejected.



Results from this model, labeled "Revised Model" (see Table 9) indicated that marital hostility was now only indirectly related to child's externalizing behaviors difficulties via its link with dysfunctional parenting: whereas maternal antisocial behavior maintained an additional direct relation with child's behavior problems. Although, this "revised model" did not result in significant  $\chi^2$  improvement over Model B for mother-daughter ( $\chi^2$  difference = 1.28,  $p = \text{NS}$ ) or for mother-son ( $\chi^2$  difference = 3.70,  $p = \text{NS}$ ) path models, it did provide stronger support for a model that included error variance among the two predictors for both the boys:  $\chi^2 (1,90) = 0.14$ ,  $p = 0.71$ , NFI = 1.00, NNFI = 1.06, CFI = 1.00 and the girls:  $\chi^2 (1,95) = 0.32$ ,  $p = 0.57$ , NFI = 1.00, NNFI = 1.03, CFI = 1.00. The path parameters estimates of the structural equation model for each mother-child dyad are presented schematically in Figure 3. All parameter effects were significant for both boys and girls ( $p < .05$ ).

Comparative model fit for boys and girls. To compare the generalizability of this model to mother-son and mother-daughter dyads, we conducted a series of analyses testing for the equivalence of this model across gender. The Lagrangian multiplier<sup>5</sup> test indicated that the cross-group equality constraints (i.e., constraints are used to specify which causal links are to be held equal across the groups) were not significant (Bentler, 1989, 1990b). In other words, this analysis indicated that all the estimated path links between observed variables (i.e. parental antisocial behavior, marital hostility, dysfunctional parenting, and children's externalizing problems) were equivalent across gender. Bentler-Bonett fit indices revealed a very good fit to the multisample data:  $\chi^2(6, 175) = 4.42$ ,  $p = 0.62$ , NFI = .98, NNFI = 1.02, CFI = 1.00. Indeed, the pattern of relations for mother-son dyads were

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<sup>5</sup> The Lagrange Multiplier or /LMtest procedure is designed to test hypotheses on statistical necessity of restriction that exist in a model. The procedure tests whether the equality constraints that have been imposed in a model are appropriate. If some of the constraints are inappropriate, i.e., not consistent with the data, the overall fit of the model might be improved substantially by releasing the constraint.



quite similar to that involving mother-daughter dyads. In effect, the maternal model suggested that the relation of marital hostility to the child's externalizing difficulties was entirely mediated by maternal dysfunctional parenting, while mothers antisocial behavior exerts an independent direct link as well as an indirect link on both boys and girls externalizing problems.

The results also indicated that the joint concurrent validity of mothers' antisocial behavior and marital hostility was statistically reliable, accounting respectively for 21% and 29% of the variance of dysfunctional mother-daughter and mother-son relationships. In addition, the associations of maternal antisocial behavior and dysfunctional parenting accounted for a surprisingly high 51% and 66% of the variance of boys' and girls' externalizing behavior problems.

#### Father's psychosocial difficulties as predictors of children externalizing difficulties.

As with our model for mothers, we expected paternal antisocial behavior and marital hostility to be related to externalizing difficulties in their children via the mediating link of dysfunctional parenting. Our analyses follow the steps followed in the previous section on mothers and results for each specific model are presented in Table 10.

Social Interactionist Model. Testing of Model A for father-child relationships revealed a misspecification of the paths in the model. Bentler-Bonett fit indices and chi-square analyses revealed a poor fit for the data for both girls:  $\chi^2(2, 80) = 87.32, p < .001$ , NFI = .11, NNFI = -1.77, CFI = .08, and boys:  $\chi^2(2, 75) = 32.70, p < .001$ , NFI = .58, NNFI = -1.65, CFI = .56. As was the case for mothers, the test of the independent mediating role of paternal dysfunctional child-rearing behaviors to child's externalizing behavior was not evident in our samples.

Table 10.

Summary of steps of Goodness-of-Fit Statistics for Comparative Models of Father-Daughter and Father-Son Dyads.

Paternal Models	$x^2$	df	$\Delta x^2$	$\Delta df$	$\Delta x^2/df$	CFI
Girls						
0. Null Model	98.25	6	--	--	--	--
1. Model A	87.32	2	--	--	--	0.08
2. Model B	2.60	1	84.72***	1	2.60	0.98
3. Revised Model	0.12	1	1.48	--	0.12	1.00
Boys						
0. Null Model	77.76	6	--	--	--	--
1. Model A	32.69	2	--	--	--	0.55
2. Model B	6.04	1	26.65***	1	6.04	0.94
3. Revised Model	0.55	1	5.49	--	0.55	1.00

Note: \*\*\*p < .001

$\Delta x^2$  = difference in  $x^2$  between models

$\Delta df$  = difference in df between models

$x^2/df$  =  $x^2$  difference accounting for df

CFI = Comparative Fit Indices

Social Learning Model. As noted earlier, Model B hypothesized that beyond dysfunctional parenting, antisocial behavior and marital hostility would have additional direct associations with children's externalizing behavior problems. The application of analyses is the same as those describe previously for mothers (see maternal Model B). Results shown in Table 10, indicated that the goodness of fit indices for this model were substantially improved from Model A ( $\chi^2$  difference = 84.75,  $p < .001$ ). The fit indices revealed a relatively good fit for girls:  $\chi^2(1, 80) = 2.60$ ,  $p < .10$ , NFI = .97, NNFI = .89, CFI = .98, as well as for boys:  $\chi^2(1, 75) = 6.04$ ,  $p = .02$ , NFI = .93, NNFI = .63, CFI = .94.

The Revised Model. As was the case with mothers, however, the data suggested that the model be re-estimated because the direct path from marital hostility to children' externalizing behaviors was not statistically significant. In addition, because the predictors were not allowed to covary in this model, residuals were above the .05 level. Therefore, in the "revised model" we deleted the direct path from marital hostility to children's problems and allowed the predictors to covary. Fit indices revealed (see Table 10), that although the comparative fit indices of the model was improved for both girls:  $\chi^2(1, 80) = 0.12$ ,  $p = .73$ , NFI = 1.00, NNFI = 1.06, CFI = 1.00 and boys:  $\chi^2(1, 75) = 0.55$ ,  $p = .46$ , NFI = 1.00, NNFI = 1.03, CFI = 1.00, the  $\chi^2$  difference between model B and the Revised Model was not significantly different for father-daughter ( $\chi^2$  difference = 1.48,  $p = \text{NS}$ ) or father-son ( $\chi^2$  difference = 5.49,  $p = \text{NS}$ ) path models. However, as was the case for mothers data, it did provide stronger support for a model that included error variance among the two predictors for both the boys and the girls. The path parameters estimates of the structural equation model for each father-child dyad are presented schematically in Figure 4.

Comparative fit model for boys and girls. To compare father-daughter versus father-son path models, Lagrangian multiplier test was conducted to compare path parameters across boys and girls sample. As with the previous findings for mothers, the



model indicated a fairly good fit to the multisample data:  $\chi^2(7, 155) = 13.48$ ,  $p = .06$ , NFI = .93, NNFI = .94, CFI = .96. The cross-group equality constraints revealed, however, that three of the path parameters in the two samples were not equivalent. In particular, these constraints referred to the associations between: (1) fathers' antisocial behavior and dysfunctional parenting (i.e., path parameters  $v3, v1$ ), (2) dysfunctional parenting and children's externalizing behavior difficulties (i.e., path parameters  $v4, v3$ ), and (3) fathers' antisocial behavior and children's externalizing behavior difficulties (i.e., path parameters  $v4, v1$ ). From these findings we can conclude that these specific links were not equivalent across father-son and father-daughter dyads.

To follow up on these problematic parameter constraints, a second analysis was executed in which the three related equality constraints were released. That is, we no longer assumed that these path parameters were equal for boys and girls. Results for this run are presented in Table 11. Not unexpectedly, relaxing these assumptions resulted in an improved fit of the model:  $\chi^2 = 1.59$ ,  $p = .81$ , NFI = .99, NNFI = 1.04, CFI = 1.00, yielding a significant better model-data fit of the comparison samples: ( $\chi^2$ ) difference = 11.89,  $p < .05$ ). Specifically, the results indicated that although marital hostility was related to paternal dysfunctional parenting for both boys and girls, fathers self-report of antisocial behavior was only related to dysfunctional father-son relationship ( $t = 3.92$ ,  $p < .05$ ). There was no reliable indicator that fathers' dysfunctional parenting was associated to impaired father-daughter relationship ( $t = 0.47$ ). In addition, fathers' dysfunctional parenting styles only mediated the link to boys externalizing problems ( $t = 2.67$ ,  $p < .05$ ). This was not the case for girls as only paternal antisocial behavior was directly related with girls ( $t = 12.73$ ,  $p < .05$ ) externalizing difficulties. For boys, however, father antisocial behavior also maintained a direct additional link ( $t = 5.68$ ,  $p < .05$ ) to children's externalizing behavior problems.

Table 11.

Fathers: Summary of steps of Goodness-of-Fit Statistics for Multisample Comparison Models

Comparative Models	$\chi^2$	df	$\Delta\chi^2$	$\Delta df$	$\Delta\chi^2/df$	CFI
0. Null Model	186.39	12	--	--	--	--
1. Multisample Model (All constraints equal)	13.48	7	172.91***	5	1.93	0.99
2. $V_{3,1}; V_{4,1}; V_{4,3};$ (Parameters free) <sup>1</sup>	1.59	4	11.89*	3	0.40	1.00

Note: \*\*\*p < .001; \*p < .05

$\Delta\chi^2$  = difference in  $\chi^2$  between models

$\Delta df$  = difference in df between models

$\chi^2/df$  =  $\chi^2$  difference accounting for df

CFI = Comparative Fit Indices



In sum, whereas the joint validity of fathers' antisocial behavior and marital hostility accounted for only 6% of dysfunctional father-daughter relationship, the two variables accounted for 24% of the variance of dysfunctional father-son relationship. In addition, the concurrent influence of paternal antisocial behavior and dysfunctional parenting accounted for 50% of the variance in boys externalizing behavior difficulties. For girls, fathers' antisocial behavior and dysfunctional parenting accounted for a surprising 68% of their externalizing problems, largely because of the independent direct influence (64%) of fathers' antisocial behavior.

## DISCUSSION

The main goals of the present study were: (a) to investigate gender differences in aggressive behavior (i.e., physical, verbal, indirect aggression) in middle childhood; (b) to clarify our understanding of the association between patterns of aggression and psychosocial adjustment within the peer and parental domains; and (c) to examine the links between children's externalizing behavior problems and family functioning. Of particular interest were the paths by which mothers' and fathers' antisocial behavior, marital hostility, and dysfunctional parenting were linked with children's behavior problems. The findings are discussed as they pertain to each of the goals.

### Gender difference in the use of aggressive strategies

The assertion that males are more aggressive than females, has consistently been supported in the literature. In that respect, the results of the present study, are consistent with those of previous studies, with boys displaying, on average, more aggressive behaviors than girls (see Block, 1983; Eagly & Steffen, 1986; Hyde, 1984; Maccoby & Jacklin, 1974, Parke & Slaby, 1983, for reviews). However, prior research on gender differences in aggression has relied on instruments that focus on behavior which is observable and quantifiable (i.e., physical and verbal aggression). Consequently, aggressive behavior styles relevant to girls (i.e., alienation, ostracism, character defamation etc.) have been underestimated largely because of the complexity and subtlety involved in female aggression (Björkqvist et al., 1988, 1990, Cairns et al., 1989; Crick & Grotpeter, 1995). The focus of research on gender differences in aggressive behavior, however, has recently begun to include an examination of qualitative differences in behavior styles, so

that the question of "who is more aggressive" becomes meaningless unless issues referring to sex differences in aggressive strategy use and their implications are examined.

Results of the present study provide evidence suggesting that, although physical, verbal and indirect aggression are highly interrelated forms of aggression, they each provide unique information about the behavior by which boys and girls express their aggressivity. As predicted, boys exhibited overall, more aggressive behavior than girls. There were also sex differences in the types of aggressive strategy use as perceived by peers. Specifically, boys were rated by same-sex peers as displaying more physical and verbal aggression than girls; whereas indirect aggression was equally frequent in both sexes. Indirect aggression, however, appeared to be a more salient characteristic of girls' aggressive behavior patterns than it was of boys'. Of particular interest, was the finding that use of indirect aggression for girls paralleled the use of physical aggression for boys. That is, physical aggression (33%) ranked second as a preferred strategy coming after verbal (40%) and before indirect aggression (27%) in boys, while for girls indirect aggression (34%) assumed a similar position between verbal (40%) and physical (26%) aggressive strategy use.

In sum, these findings are consistent with prior research on gender differences in aggression (Björkqvist et al., 1988, 1992, 1994; Cairns et al., 1989; Crick & Grotpeter, 1995) and suggests that the aggressivity exhibited by girls has been underestimated in earlier studies, largely because the forms of aggression that are more typical for girls have not been assessed. In particular, these results suggest that peers may also be used as the vehicles for harming other children, through behaviors which involve manipulation of group acceptance (e.g., alienation, ostracism and character defamation).

the question of whether indirect or relational aggression is actually relevant as a feature of aggression has been addressed in the literature. Historically, aggression was defined by most authors as behaviors that are "intended" to physically or psychologically

harm others (Berkowitz, 1993; Brehm & Kassin, 1990; Myers, 1990; Olweus, 1973; Vander Zanden, 1993). Thus, peer group manipulation (indirect aggression) can be seen as an aggressive act only if there is intent to harm others. Previous research has demonstrated (Lagertspelt, et al., 1988), however, that children do acknowledge the use of indirect aggressive behaviors, such as alienation and ostracism, as actions they take when they are angry and intend on bringing harm to others. This suggests that peer manipulation does indeed constitute a specific form of aggression.

Numerous hypotheses have been put forth to explain why girls engage in more indirect forms of aggression than boys. Crick and Groetpeter (1995), have suggested that because friendship patterns are more close and intimate among girls than boys, girls will inflict harm on others in ways that damage these significant relationships rather than use the direct physical means that are more typical among boys. As Crick and Groetpeter have pointed out "when attempting to inflict harm on peers (i.e., aggression), children do so in ways that best thwart or damage the goals that are valued by their respective gender peer groups" (p. 710). In this perspective, it seems likely that it is girls who are more often the victims of indirect/relational aggression. Findings reported by Olweus (1993) indeed confirm that girls were more exposed to indirect and more subtle forms of bullying or victimization than to direct verbal or physical attacks. Accordingly, the victim's characteristics (e.g., social behavior, appearance, ethnicity) as well as the intentions of the perpetrator (e.g., inflicting harm on others, gaining control, coping strategy), warrant particular attention in future research.

It has also been suggested that social norms and gender-role models are responsible for the inhibition of overt aggression in females (Björkqvist, 1994; Crick & Groetpeter, 1995). Based on this perspective, gender-differentiated socialization leads prototypically to a submissive and empathic personality constellation in girls and a dominant, assertive style in boys (Block, 1983; Eagly & Steffen, 1986; Maccoby & Jacklin, 1974, for reviews). In

essence, indirect and overt aggression are viewed as expressions of behavior that have been learned and reinforced by exposure to the gender-role models and expectancies of the culture. Hence, the general use of non-extreme forms of indirect aggression by girls and physical aggression by boys may be viewed as partly normative, in that they conform to gender role prototypic behavior.

In summary, boys and girls may demonstrate different types of aggressive behavior in middle childhood for different reasons. Whether the linkage depends on the influence of social gender-role models or the existence of a social structure network that facilitates the usage of indirect aggression, is a question that remains to be investigated in future studies. Nevertheless, the results of the present study provide further evidence that a qualitative approach to the study of gender differences in aggressive strategy use is meaningful.

#### Childhood strategies of aggression and psychosocial adjustment within peer and parental domains.

The second question addressed in the present study concerned the distinctive patterns of physical, verbal and indirect aggression in relation to children's psychosocial adjustment. Based on a gender risk enhancement formulation (Eme, 1979, 1992; Schwartzman et al., in preparation) and related hypotheses on individual-group similarity and dissimilarity effects (Bukowski, et al., 1993; Boivin et al., 1995; Wright et al., 1986), it was predicted that counter-gender role behavior (i.e., physical aggression in girls and indirect aggression in boys) would be indicative of more serious impaired social functioning than gender-congruent behavior in the peer and parental domains. The specific findings for peer and parental variables are discussed separately below.

Peer-ratings of aggression. It was hypothesized that same-sex peer-ratings of physical and verbal aggression would be strongly correlated with a general aggression profile. Results of the present study indicated that although all three of the aggressive

strategies were related to a general global construct of aggression. physical and verbal aggressive strategies explained a larger proportion of the variance (26% and 13%, respectively) in same-sex peer ratings of aggression than did indirect aggression (2%). Because of the considerable item overlap between the two instruments used to measure aggressive strategy use (DIAS) and the global construct of aggression (PEI) in the present study, particularly for physical and verbal aggression, these associations were not surprising. However, the small variance explained by indirect aggression may suggest that this behavior is a more "covert" form of aggressive behavior that has not been generally assessed with traditional peer assessment measures.

Peer-ratings of passive withdrawal. In line with this rationale, a parallel set of findings indicated that in contrast to physical and verbal aggression, indirect aggression was rather characteristic of passive withdrawn children. That is, indirect aggression predicted 25% of the variance, while physical (-.01%) and verbal aggression (-42%) were negative predictors of same-sex peer-ratings of social isolation. These findings were of particular interest because they provided the first data regarding the possibility of indirect aggressive strategy use by socially withdrawn children. The associations found here between indirect aggressive strategy use and socially withdrawn children, on the one hand, and between overt aggressive strategy use and aggressive children on the other hand, are consistent with evidence of specific links between children's social behavior and their interpersonal problem solving styles. These results are in line with prior studies (Bowker et al., 1992; Crick & Dodge, 1992, 1994; Dodge, 1986; Quiggle et al., 1992) indicating that physical, agonistic approach strategies are more frequently used by aggressive children, whereas nonassertive, avoidant behavior styles are more frequently observed among shy, inhibited children (Rubin & Mills, 1988; Delity, 1981; Dodge & Crick, 1990). The present study extends previous reports, however, in demonstrating that the avoidant, nonassertive interpersonal behavior style of socially withdrawn children may also include aggressive

strategy use in specific social situations - at least aggression of a more indirect/relational nature.

The results further suggested that the relationship between indirect aggression and social withdrawal was marginally stronger for boys than for girls. These results are consistent with the hypotheses stipulating that the behavioral correlates of status are moderated by the group context in which they are displayed (Boivin et al., 1995; Wright et al., 1986). Thus, it appears that same-sex peers perceive indirect aggression as a more distinctive, inappropriate behavior pattern for boys than they do for girls. One direction for future study would be to examine the linkage between children's social status and their use of aggressive strategies in conflict situations. One fact we need to keep in mind is that children have a much wider range of strategies for dealing with peer conflict than has typically been studied. Cast in this framework, indirect/relational aggressive strategy use warrants particular attention for both boys and girls.

Peer ratings of likeability. Results of the same-sex peer assessment of social acceptance provided further evidence of clear differences between physical and indirect aggression. As predicted, while both physical and indirect aggressive strategies were predictive of negative acceptance by same-sex peers, the patterns differed according to the child's gender. Specifically, physically aggressive girls were more disliked by same-sex peers than were physically aggressive boys; whereas the heightened use of indirect aggression was more strongly associated with peer disapproval in boys than in girls.

The findings of the present study support the evidence indicating that same-sex peer sanctions are greater for children who engage in counter-stereotypic group behavior than for children who engage in gender-congruent group behavior (Boivin, et al., 1993; Schwartzman et al., 1995; Wrigth, et al., 1986). As Wrigth and colleagues (1986) have pointed out, it is conceivable that children who display counter-group behavior may be perceived as being "different" by peers because they deviate from the "norm" and will

consequently have trouble gaining acceptance within their same-sex peer group. An important feature of this explanation is that judgments about social likeability are influenced by the context of the group. For example, in a girls' group, a physically aggressive child would be disliked by others, because the group context renders the physically aggressive girl highly distinctive. However, in another group (e.g., boys' group), physical aggression may not qualify as a distinctive behavior to the same extent. Although many questions about the linkage between forms of aggression and peer acceptance remain, these results clearly illustrate that physical and indirect aggression reflect two very different behavioral profiles with specific implications for boys and girls.

Parental-reports of externalizing problems. Consistent with previous research, parental assessments of social behavior indicated that particular behavior profiles were associated with related externalizing symptoms. Results also demonstrated that the nature of the relation between psychosocial adjustment and aggressive strategy use were somewhat different for boys and girls (Robins, 1966, 1986; Schwartzman et al., in preparation; Zoccolillo, 1991). When examining the relationship between use of aggressive strategies and externalizing problems, several significant main effects and interactions were found. As expected, boys were viewed by parents as displaying more aggressive and delinquent behaviors than girls. However, peer-reported overt (i.e. physical and verbal) aggression was found to be predictive of parental reports of concurrent aggressive and delinquent behavior displayed within the family context, for both boys and girls. In contrast to expectations, however, examination of the gender interaction effects indicated that fathers perceived physically aggressive daughters as engaging in more delinquent acts than physically aggressive sons. This gender variation in parental report of delinquent behavior may again reflect person-group interaction effects (Boivin et al., 1995; Schwartzman et al., in preparation; Wrigth et al., 1986). That is, fathers may perceive



physically aggressive daughters as more "deviant" than physically aggressive sons because delinquent behaviors are, on average, more common in males than in females.

Parental-reports of internalizing problems. When examining the relationship between aggressive strategies and internalizing problems, significant associations were also found for both boys and girls between physical aggression and internalizing behavior problems, such as somatic and anxious/depressed problems. However, there were also significant gender effects. As hypothesized, physically aggressive daughters were viewed by both mothers and fathers as displaying more somatic problems than physically aggressive sons. This finding is consistent with reports indicating more somatic problems in aggressive females than in aggressive males (Robins, 1966, 1986). By contrast, parents did not rate physically aggressive girls as more anxious and depressed than physically aggressive boys. Rather, both physically aggressive sons and daughters were perceived by mothers as more anxious and depressed than children who were high on verbal and indirect types of aggressive strategy use.

It was also predicted that indirect aggressive strategy use would be related to parental reports of internalizing behavior problems. However, there was no significant relation between these two factors. This lack of association may be explained in two ways. First, it may be the case that parents overlook the internal affective states of children who do not "overtly" express behavior problems. Because the use of indirect aggression is more subtle and covert than physical or verbal aggression, it may be that parents are not aware of the psychological distress of these children. Second, indirect aggressive strategy use may not necessarily be related to adjustment difficulties outside the peer group. However, the fact that self-report measures, particularly those of self-esteem, depression or social isolation, have been significantly related to relationally aggressive children (Crick & Grotpeter, 1995) argues for inclusion of youth self-report measures of psychosocial adjustment in future studies.

Parental-reports of interpersonal social problem. The pattern of findings related to parental perceptions of children's social problems was somewhat different for fathers and mothers. Although both parents viewed boys as experiencing more social problems than girls, mothers perceived both physically aggressive sons and daughters as experiencing more interpersonal social problems. In contrast, mothers did not perceived concomitant problems in daughters who were high on indirect aggression strategy use.

For fathers, however, there was no specific aggressive pattern that predicted interpersonal social problems in children. However, the sex interaction indicated that fathers again perceived their physically aggressive daughters as displaying more social problems compared to their physically aggressive sons. This result is consistent with the earlier finding, in which fathers perceived physically aggressive daughters as engaging in more delinquent behaviors than physically aggressive sons. This may suggest that fathers are more critical of their physically aggressive daughters than of their physically aggressive sons, because physical aggressive behavior is more normative in boys than in girls. Clearly, more studies examining the relation between boys' and girls' adjustment problems and differing parental perceptions are needed to clarify these findings.

#### Parental functioning and children's externalizing behavior problems

The third question in the present thesis was addressed to the links between parental functioning and children's externalizing behavior problems. In line with assumptions of social interactionist (Fergusson, 1982) and social learning (Bandura, 1977) theories, two conceptual structural models were compared regarding the nature of the relations between mothers' and fathers' characteristics and children's externalizing problems. As reviewed previously, the models differed in terms of the parental processes related to their children's behavior problems.

Based on social interactionist assumptions, the first model proposed that dysfunctional parent-child relationships are the major breeding ground of psychological disturbance in the offspring. Thus, the model posits that parental antisocial behavior and marital hostility are linked indirectly to children's externalizing problems through the mediating influence of dysfunctional child-rearing practices adopted by such parents. In contrast, the second model (i.e., social learning theory) suggests that socialization occurs in an open system and additional parental characteristics (i.e., parental antisocial behavior and marital hostility) influence directly children's adjustment difficulties. In this model, dysfunctional parent-child relationships do not account for all the variance observed in children's maladjustment.

Mother-child relationships. Results of the multisample structural modeling analyses for mothers, provide evidence for the proposition that maternal functioning is both directly and indirectly related to children's externalizing difficulties. Moreover, the basic relations among maternal measures of functioning indicate the model's strong fit for both boys and girls. Consistent with Patterson's (1982) social interactionist model, maternal antisocial behavior and marital hostility were indeed mediated by dysfunctional parenting, which itself was predictive of children's externalizing problems. However, the model fit was extended in this study along the lines suggested by the social learning model (Bandura, 1977). That is, maternal antisocial behavior was directly linked to children's externalizing problem even when dysfunctional parenting was taken into account as a mediating variable. This was not the case for marital hostility as there was no direct link with children's adjustment difficulties. Overall, the results suggest that, in addition to the direct link of dysfunctional parenting, maternal antisocial behavior was independently related to children's adjustment difficulties, whereas marital hostility appeared to have an indirect relation to children's adjustment through its relationship with dysfunctional parenting. These findings can be viewed as consonant with both theories reviewed earlier in this

study. That is, these findings provide further evidence in support of the proposition that maternal functioning is both directly and indirectly related to children's externalizing difficulties.

Father-child relationships. Of interest as well was whether the proposed model would also hold for fathers. The results indicated that the underlying mechanisms relating fathers' functioning to the externalizing difficulties of their sons was indeed consistent with those specified for mothers. However, fathers' dysfunctional parenting did not appear to be a relevant mediator of externalizing behavior problems for daughters. Rather, fathers' antisocial behavior accounted for all of the variance in girls' adjustment problems. One can speculate as to why fathers' dysfunctional parenting was not related to girl's externalizing behavior problems. First, this pattern of findings may have arisen because the measure of dysfunctional parenting used in the present study tapped rejecting/hostile aspects of parenting, and not other forms of negative parenting such as neglect, sexual abuse, or physical maltreatment. In effect, there is evidence, that aggressive/antisocial girls are particularly at risk or have a history for sexual abuse (Olsen & Holmes, 1986; Powers & Eckenrode, 1988) and for poor nurturing and inadequate care (Wolfe & McGee, 1994), aspects of parenting that was not assessed in the present study.

Second, the effects of dysfunctional parenting can also be expressed by children in widely disparate ways ranging from anxiety to low self-esteem and depression to aggressive and delinquent behavior (see Cicchetti & Carson, 1989, for a fuller discussion of these issues). Because we relied exclusively on externalizing behavior problems, one could expect that a significant link between fathers rejecting parenting styles and other adjustment problems may have been overlooked. Indeed, as compared to boys, recent research suggests that emotionally maltreated girls are at greater risk for developing internalizing behavior problems, specifically those involving inhibition and depression (Crittenden, in press). Third, perhaps the divergent findings are due to different

developmental experiences for boys and girls in middle childhood. That is, as girls approach adolescence, fathers' parenting may have a relatively minimal impact on their behavior because girls and/or fathers may withdraw from the parent-child relationship. On the other hand, at this age, the father-son bond may still be able to exert an effect on boys' behavior. As Vuchining and associates (Vuchining, Bank, & Patterson, 1992) pointed out, the nature of the relation between parenting and problem behaviors may change over time, with the parenting effects diminishing over time and the child effects increasing in prominence. This explanation is consistent with the view that reciprocal relations change across development (Eron, Huesmann, & Zelli, 1991; Hartup, 1978; Scarr & McCartney, 1983). An important implication of the present findings is that parental relations vary with regard to the sex composition of the parent-child dyads, with girls being more vulnerable to dysfunctional relations with mothers, and boys with both parents. Therefore, one important task of future research would be to clarify the potential role of fathers' parenting on girls' adjustment by including different measures of parental child-rearing practices and other interpersonal behaviors at different developmental stages. Because efforts to tap these complex family processes have rarely been studied, comparisons of these respective influences are important.

### Conclusions

Traditionally, investigators have examined gender differences in aggressive behavior from the perspective of quantitative and observable differences in levels of children's aggression. More recently, as psychosocial scientist have become interested in qualitative differences in aggressive strategy use, new research on gender differences has begun to look beyond physical and agonistic expressions of aggression. The current study supports this more recent perspective and indeed, the results support the relevance of

distinguishing between specific forms of physical, verbal, and indirect aggression for boys and girls within the peer group. Specifically, it was shown that indirect aggression is a more salient characteristic of girls' aggressive behavior patterns than it is of boys'. These results confirmed the assumption that female aggressivity has largely been underestimated in previous studies, largely because forms of aggression relevant to girls' peer groups have not been assessed.

The most important aspect of the current study regarding gender differences is its implications for psychological adjustment difficulties on the basis of aggressive strategy use. Aside from one study (cf. Crick and Grotpeter, 1995), to our knowledge no studies have been conducted to examine the adjustment problems related to specific forms of aggression. The use of a variety of peer and parental indices of children's psychosocial functioning proved to be a fruitful avenue to explore. Specifically, it was shown that each informant provided unique perceptions, yet inter-related facets of children's adjustment according to the forms of aggressive strategies displayed, the sex of the child and the characteristics specific to the rater. For example, results indicated that both physically aggressive boys and girls were at heightened risk for same-sex peer alienation as well as for externalizing, internalizing and social problems. However, physically aggressive girls were more disliked than physically aggressive boys by same-sex peers and were also viewed by fathers as engaging in more delinquent behaviors and experiencing social interpersonal problems than physically aggressive boys. Similarly, boys who engaged in more indirect aggressive strategies as compared to girls were less liked and were viewed as more socially withdrawn by same-sex peers. These findings are consistent with the hypothesis that gender role atypical behavior increases the risk for psychosocial impairment. Therefore, it appears that research is needed to assess the differential effects that specific forms of aggression has on boys' and girls' development and adjustment within particular environments.

Another interesting feature of this study was the focus on separate characteristics of mothers and fathers and their relation to externalizing behavior problems in sons versus daughters. The models depicted in Figures 3 and 4 highlights possible processes embedded in dysfunctional family relationships. The implication of these relations are important as they seem broadly similar for boys and girls. Specifically, maternal antisocial behavior and marital hostility were linked to sons' and daughters' externalizing problems via dysfunctional child-rearing practices. Maternal antisocial behavior, however, was also directly relevant to children's difficulties. For fathers, the factors related to externalizing difficulties in sons were as those specified for mothers. However, fathers' rejecting/hostile parenting style did not appear to be relevant to daughters' externalizing difficulties.

On the bases of the results presented here, one of the most pressing issues in the study of aggression is to separate the influence of mothers and fathers with regard to the adjustment difficulties of sons versus daughters. More in-depth exploration of these dimensions will depend on the development of adequate theoretical models that take into account the specificity of family influences including both maternal and paternal influences on boys and girls development and adjustment.

#### Limitations of the Study and Future Directions

Many of the limitations of the present study have been anticipated in the discussion. However, these results also leave many questions unanswered with regard to gender differences in aggressive strategies and the particular relevance such differences have for psychosocial adjustment.

With regard to aggressive strategies, it is important to note that the present results may have been affected both by conceptual and by methodological limitations. On the conceptual side, one limitation centres on the way different forms of aggressive strategies

were defined. To be consistent with prior peer rating instruments (Björkqvist et al., 1992; Lagerspelt et al, 1988), physical, verbal and indirect aggressive behavioral descriptions were included in the present study. Yet recent researchers (Crick & Grotpeter, 1995) have suggested combining items tapping physical and verbal aggression and labelling them indices of "overt" aggression, as they both address face-to-face direct confrontational styles. In addition, Crick and Grotpeter, (1995) have pointed out that the indirect aggression scale used in the present study (i.e., DIAS, Björkqvist et al., 1988) confounded behaviors of nonverbal aggression (e.g. writing nasty notes, ignoring others) with relational/indirect aggression (i.e., social manipulation of the peer group). Unfortunately, these conceptual differences may have led to methodological limitations in the present study, as the correlations between the three aggressive subscales were extremely high (similar high correlations were found in the Finnish peer-assessment instrument: personal communication, Björkqvist, 1995). Nevertheless, despite these high intercorrelations, results were consistent with research which reported significant differences between aggressive strategy use in middle childhood children (Lagerspeltz, et al., 1988; Björkqvist et al., 1988, 1992; Cairns et al., 1989; Crick & Grotpeter, 1995). However, the importance of carefully conceptualizing and assessing distinctive forms of aggression is warranted in future studies. In particular, further refinement of the structure of aggression will undoubtedly lead to an improvement in our knowledge of the relation between subtypes of aggressive behavior and concurrent and later adjustment difficulties. In this perspective, researchers should consider the possibility of designing a new assessment instrument of aggression, which tap into the behaviors that are salient for girls as well as boys.

Several additional limitations in the study warrant mention. First, only a small portion of variance, particularly for the gender interaction effects, was accounted for by specific forms of aggression. Thus additional processes, contributing factors and



adjustment indices are likely to enhance predictions and should be explored in future research. Along these lines, an examination of the goals underlying behavioral tendencies and the inclusion of self-report adjustment measures appear promising. Second, the present study was also limited by the correlational nature of the dependent variables. This prevented the present study from drawing conclusions about the processes by which children's social status (i.e., aggressive, withdrawn, and being disliked) and aggressive strategy use were related to psychological adjustment problems. Prospective studies are needed to evaluate specific hypotheses regarding the developmental sequence of the relations among children's social status, forms of aggression and adjustment difficulties. As suggested by the previous findings, it is likely that multiple pathways will be revealed with respect to the development of adjustment problems for girls and for boys. In particular, the adjustment difficulties related to indirect aggression warrants further attention.

The study should also provide a cautionary note to researchers with regard to the family processes related to boys and girls externalizing problems. The structural equation model fit in this study may have been affected by measurement differences. The fact that all of the parental ratings were collected within the same time frame and relied on a single informant were likely to affect the coefficient estimates. Accordingly, it is possible that some of the consistency among the findings are a result of a "halo" effect. That is, mothers' and fathers' reports of their children's behavioral problems were likely to be influenced by their own level of psychological symptoms (Phares & Compas, 1992). However, as Bank and associates (Bank, Dishion, Skinner, & Patterson, 1990) have pointed out, method variance biases are particularly problematic when results are derived from reliance on a single reporter for both the predictor and the criterion variable. Because the criterion variable in the present study was derived from sources of three informants (i.e., peers, mother and father), the present findings are less likely to be biased by this method variance

error. Nevertheless, further studies might reduce these methodological biases by using multiple reporters of parental adjustment difficulties at different points in time (Bank et al., 1990).

Other methodological considerations also suggest that we should be cautious about the generalizability of these results. First, the modeling procedures such as the ones used in the present study cannot automatically be equated with patterns in other populations. Although the findings from this study parallel results of previous research in important ways (Maughan, et al., 1995), the present research is limited by its sample characteristics, such as ethnicity and age of child. For example, the study examined families of 11-12 year-old children. At this age, children vary in the extent to which they have begun separating from their families and developing independence (Eron, Huesman & Zelli, 1991). It is therefore possible that their adjustment was affected by the transition from childhood to adolescence. Further longitudinal or cross-sectional research which compares children at different developmental stages in their relationship to parental disturbance therefore appears necessary.

In addition, externalizing behaviors as studied here are different from severe conduct behavior as found in clinical samples. Given the overall low levels of symptoms reported for this community sample, the results which were based on continuous measures of externalizing problems, may not be generalizable to clinical populations. However, the present findings contribute important new information on the strong relations obtained between both mothers' and fathers' disturbances and children's externalizing difficulties in the general population. This particularly warrants attention to community prevention programs. The results obtained here also suggest that thorough clinical evaluation of behaviorally disordered children and their parents is essential. Because both boys' and girls' externalizing behavior problems appear closely connected to the family context. It is

important, therefore, that family problems receive the careful attention of clinicians and professionals who deal with aggressive/antisocial children.

In summary, these findings suggest that it is both parental personal maladjustment as well as the quality of parent-child relationships that exerts direct effects on the child. Work in the field should move beyond consideration of individual risk factors in isolation to addressing the question of whether any individual risk hold unique variance in predicting development outcomes when assessed in the context of other powerful risk variables. It is also important that clinicians and researchers assess the involvement of fathers in family life. As we gain more basic understanding of the broad areas in which parental maladjustment is associated with poor outcomes in offspring, we must then begin to directly address the mechanism of transmission of both mothers and fathers as well as the specific impact they have on their sons and daughters. High-risk researchers and clinicians must continually broaden their research perspectives so that the inherent complexity of children's developmental problems can be most fully explored, and consequently adequately treated and prevented.

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Appendix A

Parent Introductory Letter and Consent Forms



UNIVERSITÉ  
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Appendix A

Cher(s) parent(s),

Vous êtes invités à collaborer à une étude sur le climat familial des jeunes de 10 à 12 ans. Cette recherche scientifique est dirigée par des professeurs de l'Université Concordia.

Votre participation à notre projet implique de votre part de répondre à quelques questionnaires. La série "rose" doit être complétée par la mère ou la figure maternelle de l'enfant tandis que la série "jaune" est réservée au père ou la figure paternelle. La participation des deux parents serait grandement souhaitée, toutefois, elle n'est pas essentielle si cela s'avérait impossible.

Nous vous offrons une rémunération de \$15.00 par série de questionnaires. Ce montant vous sera envoyé par courrier dès réception de votre enveloppe de retour. Les questionnaires dûment complétés devront nous être acheminés AU PLUS TARD LE 13 JUIN 1994.

Il est entendu que toutes les informations recueillies demeureront strictement confidentielles et qu'elles ne serviront que pour les fins de cette recherche. Les membres de l'équipe du projet auront uniquement accès au numéro d'identification des familles.

Considérant que le succès d'une telle démarche dépend principalement de votre engagement, nous espérons recevoir une réponse favorable de votre part. Nous vous remercions à l'avance de l'attention que vous porterez à cette demande et si de plus amples informations vous sont nécessaires, n'hésitez pas à communiquer avec nous au numéro suivant: 848-2249.

Veillez agréer l'expression de nos sentiments les meilleurs.

Pierrette Verlaan  
Coordonnatrice de recherche



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Appendix A

FORMULAIRE DE CONSENTEMENT

Je, \_\_\_\_\_ consens à participer à "l'Étude  
(majuscules)  
des principaux milieux de vie de l'enfant" de l'Université  
Concordia. Je comprends que toutes les informations fournies sont  
strictement confidentielles et utilisées aux fins exclusives de  
la présente recherche.

Ma participation consiste à remplir ce questionnaire et à le  
retourner à l'Université Concordia par courrier le plus tôt  
possible.

N.B. Les enveloppes sont déjà affranchies, ne pas mettre de  
timbre.

Nom: \_\_\_\_\_

Adresse: \_\_\_\_\_

Ville: \_\_\_\_\_ Code postal: \_\_\_\_\_

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Appendix B

Demographic Questionnaire



12a. Au cours des 12 derniers mois, l'enfant concerné par cette étude a vécu:

- avec son père et sa mère naturelle ..... 1
- avec sa mère naturelle seule ..... 2
- avec sa mère naturelle et une personne qui n'est pas son père naturel ..... 3
- avec sa mère adoptive et son père adoptif ..... 4
- avec sa mère adoptive seule ..... 5
- avec sa mère adoptive et une personne qui n'est pas son père adoptif ..... 6
- avec son père naturel seul ..... 7
- avec son père naturel et une personne qui n'est pas sa mère naturelle ..... 8
- avec ses grands-parents ..... 9
- avec sa grand-mère seule ..... 10
- avec sa grand-mère et une personne qui n'est pas son grand-père ..... 11
- autres (précisez) ..... 12

b. S'il y a eu séparation des parents au cours des 12 derniers mois et que l'enfant ne vit plus avec sa mère naturelle, depuis combien de temps ne vit-il plus avec elle? \_\_\_\_\_

c. Si l'enfant ne vit plus avec sa mère naturelle et qu'un décès n'est pas en cause, l'enfant rencontre-t-il sa mère?

- Oui ..... 1
- Non ..... 2
- Je ne sais pas ..... 3

Si oui, à quelle fréquence la rencontre-t-il généralement?

- Quelques heures tous les jours ..... 1
- Quelques heures par semaine ..... 2
- 1 à 2 jours par semaine ..... 3
- 1 à 2 jours par 2 semaines ..... 4
- 1 à 2 jours par mois ..... 5
- 1 semaine aux 15 jours ..... 6
- 1 à 2 jours par 3 mois ..... 7
- 1 à 2 jours par 6 mois ..... 8
- Une fois l'an ..... 9
- Autres (précisez) ..... 10

d. S'il y a eu séparation des parents au cours des 12 derniers mois et que l'enfant ne vit plus avec son père naturel, depuis combien de temps ne vit-il plus avec lui? \_\_\_\_\_

e. Si l'enfant ne vit plus avec son père naturel et qu'un décès n'est pas en cause, l'enfant rencontre-t-il son père?

- Oui ..... 1
- Non ..... 2
- Je ne sais pas ..... 3

Si oui, à quelle fréquence le rencontre-t-il généralement?

Quelques heures tous les jours .....	1
Quelques heures par semaine .....	2
1 à 2 jours par semaine .....	3
1 à 2 jours par 2 semaines .....	4
1 à 2 jours par mois .....	5
1 semaine aux 15 jours .....	6
1 à 2 jours par 3 mois .....	7
1 à 2 jours par 6 mois .....	8
Une fois l'an .....	9
Autres (précisez) .....	10

13a. Au cours des 12 derniers mois, avez-vous (mère de l'enfant ou celle qui la remplace) eu un emploi rémunéré?

Oui .....	1
Non .....	2

b. Si oui, quel type d'emploi? \_\_\_\_\_

Dans quel genre d'entreprise? \_\_\_\_\_

A temps partiel .....	1
A temps plein .....	2

c. Si non, quel a été votre dernier emploi? \_\_\_\_\_

Dans quel genre d'entreprise? \_\_\_\_\_

d. Avez-vous (mère de l'enfant ou celle qui la remplace) déjà reçu des prestations du bien-être social?

Jamais .....	1
Oui, au cours des 12 derniers mois .....	2
Oui, avant les 12 derniers mois .....	3
Oui, avant et durant les 12 derniers mois.....	4

14a. Au cours des 12 derniers mois, le père (ou celui qui le remplace) et qui vit avec l'enfant concerné par cette étude a-t-il eu un emploi rémunéré?

Oui .....	1
Non .....	2

b. Si oui, quel type d'emploi? \_\_\_\_\_

Dans quel genre d'entreprise? \_\_\_\_\_

A temps partiel .....	1
A temps plein .....	2

c. Si non, quel a été son dernier emploi? \_\_\_\_\_

Dans quel genre d'entreprise? \_\_\_\_\_

d. A-t-il déjà reçu des prestations du bien-être social?

- Jamais ..... 1
- Oui, au cours des 12 derniers mois ..... 2
- Oui, avant les 12 derniers mois ..... 3
- Oui, avant et durant les 12 derniers mois..... 4

e. Au cours des 12 derniers mois, si le père naturel n'a pas vécu avec l'enfant de cette étude, a-t-il apporté une aide financière?

- Oui ..... 1
- Non ..... 2

15. Dans laquelle des catégories suivantes tombe votre revenu familial total, avant impôts, pour 1993. Comptez vos revenus de toutes provenances: salaires, traitements, commissions, pensions, allocations familiales, revenus de location etc... (incluant ceux de votre conjoint)

- Moins de 5,000 ..... 1
- De 5,000 à 9,999 ..... 2
- De 10,000 à 14,999 ..... 3
- De 15,000 à 19,999 ..... 4
- De 20,000 à 24,999 ..... 5
- De 25,000 à 29,999 ..... 6
- De 30,000 à 34,999 ..... 7
- De 35,000 à 39,999 ..... 8
- De 40,000 à 44,999 ..... 9
- De 45,000 à 49,999 .....10
- De 50,000 à 54,999 .....11
- De 55,000 à 59,999 .....12
- De 60,000 à 69,999 .....13
- De 70,000 à 79,999 .....14
- De 80,000 à 89,999 .....15
- De 90,000 à 99,999 .....16
- 100,000 et plus .....17

Appendix C

Means, Standard Deviations and Range of Responses  
on Demographic Questionnaire



Demographic Characteristics of Sample

MOTHERS							
	Girls (n=98)		Boys (n=91)		Full sample (n=189)		
	M	SD	M	SD	M	SD	
						Range	
Age	37.6	4.5	37.7	3.9	37.6	4.2	27-54
Education	12.0	2.5	12.4	2.6	12.2	2.5	6-23
# children	2.2	0.8	2.4	1.0	2.3	0.9	1-6
Occ. Prestige	37.6	12.8	37.6	12.5	37.6	12.6	17-78
Family income (\$)	9.7	4.1	9.4	3.7	9.6	3.8	2-17
		(48,500\$)		(47,000\$)		(5,000/100,000+\$)	

FATHERS							
	Girls (n=98)		Boys (n=91)		Full sample (n=189)		
	M	SD	M	SD	M	SD	
						Range	
Age	40.5	5.1	40.0	4.4	40.3	4.8	27-54
Education	12.5	3.5	12.1	3.4	12.3	3.4	6-23
# children	2.3	0.8	2.5	1.0	2.4	0.9	1-6
Occ. Prestige	36.9	13.6	36.4	12.9	36.6	12.8	17-78
Family income (\$)	10.2	3.8	10.1	3.7	10.1	3.7	2-17
		(52,000\$)		(51,000\$)		(5,000/100,000+\$)	

Note: # children = number of children per household; Occ. Prestige = Occupational prestige (scores range from 1 to 99); family income = range from 1 (-5,000\$) to 17 (+100,000\$); (\$) = family income in dollars.

Appendix D

Parental Form of the Child Behavior Checklist

(French Version)

Formula rempli par: Mère  Père  Age: \_\_\_\_\_ Garçon  Filles  Date: \_\_\_\_\_

I. Veuillez indiquer les sports auxquels votre enfant préfère participer. Par exemple: le nage, le baseball, le patinage, le rouli-roulant, la bicyclette, la pêche, etc.

aucun

a. _____	Moins que la moyenne	Comme la moyenne	Plus que la moyenne	Moins que la moyenne	Comme la moyenne	Plus que la moyenne
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comparé à d'autres enfants du même âge, avec quelle habileté pratique-t-elle/ils chacun de ces sports?

II. Veuillez indiquer les passe-temps, activités et jeux favoris de votre enfant, autres que les sports. Par exemple: collection de timbres, poupées, livres, piano, métier d'art, le chant, etc.

aucun

a. _____	Moins que la moyenne	Comme la moyenne	Plus que la moyenne	Moins que la moyenne	Comme la moyenne	Plus que la moyenne
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comparé à d'autres enfants du même âge, comment se classe-t-elle/dans chacune de ces activités?

III. Veuillez énumérer les organisations, clubs, équipes ou groupes auxquels votre enfant appartient.

aucun

a. _____	Moins activement	Comme la moyenne	Plus activement	Moins activement	Comme la moyenne	Plus activement
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comparé à d'autres enfants du même âge, jusqu'à quel point participe-t-elle/ils à ces groupes?

IV. Indiquez s.v.p. les emplois ou tâches de votre enfant. Par exemple: livraison de journaux, garde d'enfants, faité la lit, etc.

aucun

a. _____	Moins que la moyenne	Comme la moyenne	Plus que la moyenne	Moins que la moyenne	Comme la moyenne	Plus que la moyenne
b. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comparé à d'autres enfants du même âge, comment rempli-t-elle/ils ces tâches?

- V. 1. A peu près combien de "bons" amis a votre enfant?  aucun(e)  1  2 ou 3  4 ou plus
2. A peu près combien de fois par semaine font-ils des choses ensemble?  moins que 1  1 ou 2  3 ou plus

VI. Comparé à d'autres enfants de son âge, comment votre enfant:

	Pire	Comme la Moyenne	Mieux
a. s'entend-il/elle avec ses frères et sœurs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. s'entend-il/elle avec d'autres enfants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. se comporte-il/elle envers ses parents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. joue-t-il/elle et travaille-t-il/elle seul(e)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VII. 1. Rendement scolaire actuel - pour enfants âgés de 6 ans et plus:

	<input type="checkbox"/> ne va pas à l'école	Echec	En-deous de la moyenne	Comme la moyenne	Au-dessus de la moyenne
a. lecture en français	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. composition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. arithmétique ou mathématiques	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. orthographe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. autres sujets scolaires par exemple: l'histoire, les sciences, une langue étrangère, la géographie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Est-ce que votre enfant est dans une classe spéciale?

- non  oui, quel genre?

3. Est-ce que votre enfant a déjà doublé une année?

- non  oui, quelle année et pour quelle raison?

4. Veuillez décrire tout problème scolaire ou autre de votre enfant à l'école.

- aucun

VIII. Vous trouverez ci-dessous une liste d'items qui s'applique aux enfants. Veuillez encadrer le numéro 2 de chaque item qui est vrai ou souvent vrai pour votre enfant à présent ou qui a été vrai dans les 12 mois passés. Encerclez le numéro 1 si l'item est quelques fois ou à peu près vrai. Encerclez le 0 si l'item ne s'applique pas à votre enfant.

0 1 2	1. Se comporte d'une façon trop jeune pour son âge.	0 1 2	29. A peur de certains animaux, de certains endroits ou situations en dehors de l'école (décrivez):
0 1 2	2. Allergie (décrivez):	0 1 2	30. A peur d'aller à l'école
0 1 2	3. Se dispute beaucoup	0 1 2	31. A peur d'avoir des mauvaises pensées ou de faire quelque chose de mal
0 1 2	4. Asthme	0 1 2	32. Pense qu'il/elle doit être parfait(e)
0 1 2	5. Se comporte comme l'autre sexe	0 1 2	33. Pense ou se plaint que personne ne l'aime
0 1 2	6. Des selles en dehors de la toilette	0 1 2	34. Pense qu'on le persécuta
0 1 2	7. Se vante	0 1 2	35. Se croit bon à rien ou inférieur(e)
0 1 2	8. Ne peut pas concentrer son attention pour longtemps	0 1 2	36. Se fait souvent mal, est prédisposé(e) aux accidents
0 1 2	9. Ne peut pas cesser de penser à certaines choses, à des obsessions (décrivez):	0 1 2	37. Se bégaye souvent
0 1 2	10. Ne peut pas rester assis(e): est agité(e), ou hyperactif(ve)	0 1 2	38. Se fait taper beaucoup
0 1 2	11. S'accroche aux adultes ou est trop dépendant	0 1 2	39. Fréquente des enfants qui s'attirent des ennemis
0 1 2	12. Se plaint de se sentir seul(e)	0 1 2	40. Croit entendre des sons qui n'existent pas (décrivez):
0 1 2	13. Confus ou semble être dans le brouillard	0 1 2	41. Impulsif(ve) ou agit sans réfléchir
0 1 2	14. Fieure beaucoup	0 1 2	42. Aime la solitude
0 1 2	15. Cruel(le) envers les animaux	0 1 2	43. Ment ou triche
0 1 2	16. Cruel(le), brutal ou méchant envers les autres	0 1 2	44. Ronge les ongles
0 1 2	17. Perde dans ces rêveries ou ses pensées	0 1 2	45. Nerveux(se), stressé(e), tendu(e)
0 1 2	18. Se fait mal exprès ou essaie de se suicider	0 1 2	46. Mouvements nerveux ou contractions involontaires répétées (décrivez):
0 1 2	19. Eulge beaucoup d'attention	0 1 2	47. Cauchemars
0 1 2	20. Dérive ses propres choses	0 1 2	48. Pas aimé(e) par les autres enfants
0 1 2	21. Détruit des objets qui appartiennent à la famille ou à d'autres enfants.	0 1 2	49. Cranté(e), ne va pas à la selle
0 1 2	22. Désobéissant(e) à la maison	0 1 2	50. Trop peureux(se) ou anxieux(se)
0 1 2	23. Désobéissant(e) à l'école	0 1 2	51. A des étourdissements
0 1 2	24. N'a pas d'appétit	0 1 2	52. Se sent trop coupable
0 1 2	25. Ne s'entend pas avec d'autres enfants	0 1 2	53. Mange trop
0 1 2	26. Ne semble pas se sentir coupable après s'être mal comporté(e)	0 1 2	54. Trop fatigué(e)
0 1 2	27. Facilement jaloux(se)	0 1 2	55. Pèse plus que la moyenne
0 1 2	28. Mange ou boit autre chose que de la nourriture		

- 0 1 2 56. Problèmes physiques sans cause médicale connue  
 0 1 2 a. des douleurs ou maux  
 0 1 2 b. maux de tête  
 0 1 2 c. nausées, se sent mal  
 0 1 2 d. problèmes avec les yeux (décrivez): \_\_\_\_\_
- 
- 0 1 2 e. éruptions ou autres problèmes de la peau  
 0 1 2 f. maux d'estomac ou crampes  
 0 1 2 g. vomissements  
 0 1 2 h. autre (décrivez): \_\_\_\_\_
- 
- 0 1 2 57. Attaque les gens physiquement  
 0 1 2 58. Joue dans son nez, se gratte la peau ou autres parties du corps (décrivez): \_\_\_\_\_
- 
- 0 1 2 59. Joue avec ses parties sexuelles en public  
 0 1 2 60. Joue trop avec ses parties sexuelles  
 0 1 2 61. Travaille mal à l'école  
 0 1 2 62. Mal contrôlé(e) ou maladroite(e)  
 0 1 2 63. Préfère jouer avec des enfants plus âgés  
 0 1 2 64. Préfère jouer avec des enfants plus jeunes  
 0 1 2 65. Refuse de parler  
 0 1 2 66. Répète sans cesse certains actes; est compulsif (décrivez): \_\_\_\_\_
- 
- 0 1 2 67. S'enfuit de la maison  
 0 1 2 68. Marie beaucoup  
 0 1 2 69. Renfermé(e), garde les choses pour soi  
 0 1 2 70. Voit des choses qui n'y sont pas (décrivez): \_\_\_\_\_
- 
- 0 1 2 71. Est timide ou facilement embarrassé(e)  
 0 1 2 72. Allume des feux  
 0 1 2 73. A des problèmes sexuels (décrivez): \_\_\_\_\_
- 
- 0 1 2 74. Fait le fin ou le bouffon  
 0 1 2 75. Est gêné(e) ou timide  
 0 1 2 76. Dort moins que le plupart des enfants  
 0 1 2 77. Dort plus que la plupart des enfants pendant le jour et/ou la nuit (décrivez): \_\_\_\_\_
- 
- 0 1 2 78. Se barbouille ou joue avec les selles  
 0 1 2 79. Problèmes d'élocution (décrivez): \_\_\_\_\_
- 
- 0 1 2 80. A le regard vague  
 0 1 2 81. Voie à la maison  
 0 1 2 82. Voie en dehors de la maison  
 0 1 2 83. Amasse ce dont il/elle n'a pas besoin (décrivez): \_\_\_\_\_
- 
- 0 1 2 84. Comportement étrange (décrivez): \_\_\_\_\_
- 
- 0 1 2 85. Idées étranges (décrivez): \_\_\_\_\_
- 
- 0 1 2 86. Entêté(e), maussade, ou irritable  
 0 1 2 87. Soudains sauts d'humeur ou de sentiments  
 0 1 2 88. Boude beaucoup  
 0 1 2 89. Méfiant(e)  
 0 1 2 90. Sacre ou se sert de mots obscènes  
 0 1 2 91. Parle de se tuer  
 0 1 2 92. Parle dans son sommeil ou est somnambule (décrivez): \_\_\_\_\_
- 
- 0 1 2 93. Parle trop  
 0 1 2 94. Taquine beaucoup  
 0 1 2 95. Accès de colère, des crises, ou s'emporte facilement  
 0 1 2 96. Pense trop au sexe  
 0 1 2 97. Menace les gens  
 0 1 2 98. Sauc le pouce  
 0 1 2 99. Trop préoccupé(e) par l'ordre ou la propreté  
 0 1 2 100. Difficultés à dormir (décrivez): \_\_\_\_\_

0	1	2	101.	Fait l'école buissonnière, manque l'école	0	1	2	108.	Mouille le lit
0	1	2	102.	Trop peu actif(ve), mouvements lents ou manque d'énergie	0	1	2	109.	Fleurniche
0	1	2	103.	Malheureux(ve), triste ou déprimé(e)	0	1	2	110.	Voudrait appartenir à l'autre sexe
0	1	2	104.	Exceptionnellement bruyant	0	1	2	111.	Retiré(e) ou se pisse pas aux autres
0	1	2	105.	Se sert d'alcool ou de drogues (désirées)	0	1	2	112.	Se fait des soucis
0	1	2	106.	Vandalisme	0	1	2	113.	Veillez indiquer ci-dessous tout problème que votre enfant peut avoir et qui n'est pas indiqué ci-haut:
0	1	2	107.	Se mouille pendant le journal					

VEUILLEZ VOUS ASSURER D'AVOIR REPONDU A CHAQUE ITEM.

Appendix E

Abridged Pupil Evaluation Inventory Items

(French Version )



## Appendix E

### Pupil Evaluation Inventory Items

(French Version)

#### Aggression

- Chicane à propos de rien
- Dérange les autres
- Ecoute pas les professeurs
- Se plaint toujours et n'est jamais content(e)
- Est méchant(e) et cruel(le) envers les autres
- Prends des choses qui ne lui appartiennent pas
- Peut battre tout le monde
- Rit des autres et les ridiculise
- Exagère et raconte des histoires
- Agit comme un bébé

#### Passive Withdrawal:

- Trop gêné(e) pour se faire des ami(e)s
- Souvent ne veulent pas jouer
- On ne le remarque pas beaucoup

#### Likeability:

- Est aimé(e) par tout le monde
- Semble comprendre ce qui se passe
- Aide les autres
- Est particulièrement gentil(le)

Appendix F

Direct and Indirect Aggressive Strategy Items

(French Version )

## Appendix F

### Direct and Indirect Aggressive Strategy Items

(French version)

#### 1. Physical Aggression:

- Est mechant(e) et cruel(le) envers les autre
- Frappe et bouscule les autres
- Prends les choses qui ne lui appartiennent pas
- Peut battre tout le monde

#### 2. Verbal Aggression:

- Crie apres les autres
- Insulte ou critique les autres
- Agace les autres
- Rit des autres et les ridiculise

#### 3. Indirect Aggression

- Devient ami(e) avec quelqu'un d'autre pour se venger
- Parle dans le dos des autres
- Raconte les secrets des autres
- Essaie d'amener les autres a ne pas aimer une autre
- Ecrit des notes mechantes sur les autres
- Ignore les autres
- Dit aux autres: Ne soyons pas avec lui/elle!
- Fait du commerage sur les autres

Appendix G

Parental self-reported Involvement in Past and Present Antisocial Behavior

(French Version)

Appendix G  
Parental self-report of antisocial behavior

No d'identification \_\_\_\_\_

Les questions suivantes se répondent en encerclant un chiffre. Cette fois-ci, choisissez la réponse qui correspond le plus à ce que vous avez déjà fait ou ce qui vous a déjà été fait en vous servant du choix présenté dans le carré ci-dessous.

N'oubliez pas de répondre à toutes les questions, le plus franchement possible, même celles qui te semblent être pareilles à d'autres. Traitez chaque question de façon indépendante des autres questions. Je vous rappelle que toutes les informations sont gardées strictement confidentielles.

- |                     |
|---------------------|
| 1. Jamais           |
| 2. Une ou deux fois |
| 3. Plusieurs fois   |
| 4. Très souvent     |

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. Au cours de vos années scolaires, avez-vous dérangé votre classe par exprès?   | 1 | 2 | 3 | 4 |
| 2. Au cours de vos années scolaires, avez-vous brisé ou détruit par exprès des instruments de musique, des articles de sport ou d'autres équipements à l'école? | 1 | 2 | 3 | 4 |
| 3. Avez-vous déjà brisé ou détruit par exprès des choses qui ne vous appartenaient pas?   | 1 | 2 | 3 | 4 |
| 4. Au cours de vos années scolaires, avez-vous répondu à un de vos professeurs en n'étant pas poli(e)?  | 1 | 2 | 3 | 4 |
| 5. Au cours de vos années scolaires, avez-vous pris et gardé des objets de 10\$ ou plus appartenant à l'école?  | 1 | 2 | 3 | 4 |
| 6. Au cours de vos années scolaires, êtes-vous servi de notes cachées ou d'autres moyens défendus pour tricher pendant un examen?                               | 1 | 2 | 3 | 4 |
| 7. Au cours de vos années scolaires, avez-vous manqué l'école sans une excuse valable?  | 1 | 2 | 3 | 4 |
| 8. Au cours de vos années scolaires, avez-vous brisé par exprès des parties d'une école (vitres, murs,...)?   | 1 | 2 | 3 | 4 |
| 9. Avez-vous déjà pris et gardé quelque chose sans payer dans un magasin?   | 1 | 2 | 3 | 4 |
| 10. Avez-vous déjà menacé de battre quelqu'un pour le forcer à faire quelque chose qu'il ne voulait pas faire?  | 1 | 2 | 3 | 4 |
| 11. Durant votre secondaire, avez-vous eu des relations sexuelles?  | 1 | 2 | 3 | 4 |

- |  |
|--|
| 1. Jamais<br>2. Une ou deux fois<br>3. Plusieurs fois<br>4. Très souvent |
|--|

- |  |   |   |   |   |
|--|---|---|---|---|
| 12. Avez-vous déjà pris part à des batailles entre groupes de jeunes (gangs)?  | 1 | 2 | 3 | 4 |
| 13. Avez-vous pris et gardé quelque chose de 100\$ et plus qui ne vous appartenait pas?  | 1 | 2 | 3 | 4 |
| 14. Avez-vous déjà entré(e) sans payer dans un endroit payant?   | 1 | 2 | 3 | 4 |
| 15. Avez-vous déjà utilisé une arme (bâton, couteau, fusil, roches...) en vous battant avec une autre personne?                                | 1 | 2 | 3 | 4 |
| 16. Vous êtes-vous déjà battu(e) à coups de poing avec une autre personne?   | 1 | 2 | 3 | 4 |
| 17. Avez-vous déjà vendu de la drogue (n'importe quelle sorte)?  | 1 | 2 | 3 | 4 |
| 18. Lorsque vous viviez chez vos parents, vous êtes-vous sauvé(e) de la maison pendant plus de 24 heures, plus d'une journée?                  | 1 | 2 | 3 | 4 |
| 19. Avez-vous brisé ou détruit par exprès quelque chose qui appartenait à vos parents ou à un autre membre de votre famille?                   | 1 | 2 | 3 | 4 |
| 20. Avez-vous déjà pris une motocyclette pour faire un tour, sans la permission du (de la) propriétaire?                                       | 1 | 2 | 3 | 4 |
| 21. Lorsque vous viviez chez vos parents, avez-vous pris et gardé de l'argent à la maison sans permission et sans l'intention de le rapporter? | 1 | 2 | 3 | 4 |
| 22. Avez-vous déjà battu, frappé ou poussé fort un de vos parents?   | 1 | 2 | 3 | 4 |
| 23. Lorsque vous viviez chez vos parents, leur avez-vous déjà dit que vous refusiez de faire ce qu'ils vous ordonnaient de faire?              | 1 | 2 | 3 | 4 |
| 24. Avez-vous déjà pris et gardé quelque chose de moins de 10\$ qui ne vous appartenait pas?   | 1 | 2 | 3 | 4 |
| 25. Vous êtes-vous déjà saoulé avec de la bière, du vin ou d'autres boissons fortes?   | 1 | 2 | 3 | 4 |

- |  |
|--|
| 1. Jamais<br>2. Une ou deux fois<br>3. Plusieurs fois<br>4. Très souvent |
|--|

- |  |   |   |   |   |
|--|---|---|---|---|
| 26. Avez-vous déjà battu, frappé ou poussé très fort votre frère ou votre soeur en vous battant avec lui ou avec elle?           | 1 | 2 | 3 | 4 |
| 27. Lorsque vous viviez chez vos parents, avez-vous déjà flâné ou niaisé le soir lorsque vous étiez supposé(e) être à la maison? | 1 | 2 | 3 | 4 |
| 28. Avez-vous déjà défoncé une porte ou une fenêtre pour entrer quelque part et y prendre quelque chose?                         | 1 | 2 | 3 | 4 |
| 29. Avez-vous déjà pris une automobile pour faire un tour, sans la permission du (de la) propriétaire?                           | 1 | 2 | 3 | 4 |
| 30. Avez-vous déjà détruit par exprès une antenne, des pneus ou d'autres parties d'une automobile?                               | 1 | 2 | 3 | 4 |
| 31. Avez-vous déjà fait usage de stimulants (speed, pep pills, etc.) ou d'hallucinogènes (LSD, STP, THC, etc.)?                  | 1 | 2 | 3 | 4 |
| 32. Avez-vous déjà mis le feu par exprès dans un magasin ou dans d'autres endroits?  | 1 | 2 | 3 | 4 |
| 33. Avez-vous déjà battu quelqu'un qui ne vous avait rien fait?  | 1 | 2 | 3 | 4 |
| 34. Est-ce que quelqu'un vous a déjà battu(e) alors que vous ne lui aviez rien fait?   | 1 | 2 | 3 | 4 |
| 35. Est-ce que quelqu'un vous a déjà pris quelque chose de grande valeur (de 100\$ et plus)?                                     | 1 | 2 | 3 | 4 |
| 36. Vous est-il déjà arrivé de porter une arme (une chaîne, un couteau, un fusil, etc.)?   | 1 | 2 | 3 | 4 |
| 37. Avez-vous déjà pris et gardé quelque chose entre 10\$ et 100\$ qui ne vous appartenait pas?                                  | 1 | 2 | 3 | 4 |
| 38. Avez-vous déjà pris et gardé une bicyclette qui ne vous appartenait pas?   | 1 | 2 | 3 | 4 |
| 39. Est-ce que quelqu'un vous a déjà pris et gardé quelque chose de valeur moyenne (entre 10\$ et 100\$)?                        | 1 | 2 | 3 | 4 |

- |  |
|--|
| 1. Jamais<br>2. Une ou deux fois<br>3. Plusieurs fois<br>4. Très souvent |
|--|

40. Durant votre secondaire, avec combien de personnes différentes avez-vous eu des relations sexuelles?  
 1: Jamais            2: 1 ou 2            3: quelques-unes    4: beaucoup
41. Est-ce que quelqu'un vous a déjà pris et gardé quelque chose de petite valeur (moins de 10\$)?            1    2    3    4
42. Avez-vous déjà pris des opiacées (Héroïne, morphine, opium)?            1    2    3    4
43. Vous êtes-vous déjà introduit(e) quelque part où vous n'aviez pas le droit (p. ex. maison où il n'y avait personne, hangar, voies ferrées, maison en construction)?            1    2    3    4
44. Avez-vous déjà pris de la marijuana ou du hachisch (un joint, du pot)?            1    2    3    4
45. Avez-vous déjà téléphoné sans vous nommer pour jouer un tour?            1    2    3    4
46. Avez-vous déjà acheté, utilisé ou vendu quelque chose que vous saviez avoir été volé?            1    2    3    4
47. Au cours de votre expérience sur le marché du travail, avez-vous manqué sans excuse valable?            1    2    3    4
48. Depuis que vous êtes sur le marché du travail, combien de fois avez-vous changé d'emploi?            1    2    3    4
- 49a. Depuis que vous êtes sur le marché du travail, pendant combien de mois avez-vous retiré de l'assurance-chômage?  
 1: Jamais            2: 0 à 6 mois            3: 6 à 24 mois            4: 24 mois et plus
- 49b. Depuis que vous avez terminé l'école, pendant combien de mois avez-vous retiré du Bien-être social?  
 1: Jamais            2: 0 à 6 mois            3: 6 à 24 mois            4: 24 mois et plus
50. Au cours de votre expérience de travail avez-vous pris quelque chose qui appartenait à votre employeur ou à vos collègues de travail (p. ex. outils, équipement de bureau)?            1    2    3    4



51. Avez-vous déjà fait appel à vos ami(e)s ou à vos parents pour vous prêter de l'argent? 1 2 3 4
52. Avez-vous déjà eu de la difficulté à remettre l'argent emprunté? 1 2 3 4

Appendix H

Revised O'Leary Porter Scale of Marital Hostility

(French Version )

O'Leary Porter Scale of Marital Hostility

S.V.P. Répondez à ces questions au meilleur de votre connaissance. Ces questions portent sur votre fils/fille de 5e ou 6e seulement.

1. Il est difficile ces jours-ci, avec les budgets serrés qu'on connaît, de s'en tenir à un temps et un moment précis pour discuter de questions financières. Combien de fois vous et votre conjoint vous disputez-vous au sujet de questions d'argent en présence de cet enfant?  
Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
2. Lorsque ces discussions se produisent, votre enfant:  
Pleure \_\_\_ Ne réagit pas \_\_\_ Se fâche \_\_\_ Essaie de faire la paix \_\_\_  
Prends la part d'un parent \_\_\_ Quitte la pièce \_\_\_
3. Les enfants vont souvent voir l'un des parents pour de l'argent ou obtenir la permission de faire quelque chose après que l'autre ait refusé. Combien de fois diriez-vous que cet enfant vous approche ou approche votre conjoint après que l'autre ait refusé et qu'il/elle obtienne des résultats positifs?  
Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
4. Souvent, mari et femme ne sont pas d'accord sur des questions de discipline. Combien de fois vous et votre conjoint vous disputez-vous au sujet de problèmes de discipline en présence de cet enfant?  
Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
5. Lorsque cela se produit, votre enfant:  
Pleure \_\_\_ Ne réagit pas \_\_\_ Se fâche \_\_\_ Essaie de faire la paix \_\_\_  
Prends la part d'un parent \_\_\_ Quitte la pièce \_\_\_
6. Combien de fois cet enfant vous a-t-il entendu vous disputer, vous et votre conjoint au sujet du rôle de l'épouse dans la famille (p.ex. ménagère, épouse qui travaille, etc.)?  
Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
7. Lorsque de telles discussions se produisent, votre enfant:  
Pleure \_\_\_ Ne réagit pas \_\_\_ Se fâche \_\_\_ Essaie de faire la paix \_\_\_  
Prends la part d'un parent \_\_\_ Quitte la pièce \_\_\_
8. Combien de fois votre conjoint se plaint-il de vous ou de vos habitudes personnelles (p.ex. boisson, critique tout le temps, malpropre etc.) devant cet enfant?  
Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
9. Combien de fois vous plaignez-vous à votre conjoint de ses habitudes personnelles devant cet enfant?  
Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_

10. Lorsque vous ou votre conjoint faites de tels commentaires, votre enfant:  
 Pleure \_\_\_ Ne réagit pas \_\_\_ Se fâche \_\_\_ Essaie de faire la paix \_\_\_  
 Prends la part d'un parent \_\_\_ Quitte la pièce \_\_\_
11. Dans tous les ménages normaux, les couples ont des désaccords. Selon vous, à quel pourcentage cet enfant est-il témoin des désaccords entre vous et votre conjoint?  
 Moins de 10% \_\_\_ 10-25% \_\_\_ 26-50% \_\_\_ 51-75% \_\_\_ Plus de 75% \_\_\_
12. Jusqu'à un certain point, nous avons tous des envies presque irrésistibles dans des moments de stress intense. A quelle fréquence y'a-t-il expression d'hostilité de façon physique?  
 Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
13. Lorsque cela se produit, votre enfant:  
 Pleure \_\_\_ Ne réagit pas \_\_\_ Se fâche \_\_\_ Essaie de faire la paix \_\_\_  
 Prends le bord d'un parent \_\_\_ Quitte la pièce \_\_\_
14. Combien de fois vous et/ou votre conjoint exprimez-vous vos hostilités verbalement en présence de cet enfant?  
 Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
15. Lorsque cela se produit, votre enfant:  
 Pleure \_\_\_ Ne réagit pas \_\_\_ Se fâche \_\_\_ Essaie de faire la paix \_\_\_  
 Prends le bord d'un parent \_\_\_ Quitte la pièce \_\_\_
16. Combien de fois vous et votre conjoint démontrez-vous votre affection l'un pour l'autre devant cet enfant?  
 Jamais \_\_\_ Rarement \_\_\_ De temps en temps \_\_\_ Souvent \_\_\_ Très souvent \_\_\_
17. Lorsque cela se produit, votre enfant:  
 Quitte la pièce \_\_\_ Semble mal à l'aise \_\_\_ Semble à l'aise \_\_\_  
 Ne réagit pas \_\_\_ Montre de la jalousie \_\_\_
18. En présence de votre enfant, quel pourcentage de vos échanges tombe dans les catégories suivantes?  
 Jovial \_\_\_ % Plaintif \_\_\_ % Fâché \_\_\_ Conversation \_\_\_ % Sarcastique \_\_\_ %
19. En présence de votre enfant, quel % des conversations de votre époux(se) avec vous tombe dans les catégories suivantes?  
 Jovial \_\_\_ % Plaintive \_\_\_ % Fâchée \_\_\_ % Conversation \_\_\_ %  
 Sarcastique \_\_\_ %
20. Quelle est la fréquence avec laquelle votre époux(se), votre enfant et vous avez du plaisir ensemble?  
 Très souvent \_\_\_ Souvent \_\_\_ Parfois \_\_\_ Rarement \_\_\_ Jamais \_\_\_

Appendix I

Parental Acceptance-Rejection Self-Report Questionnaire

(French Version)

Appendix I  
Parental Acceptance Rejection Questionnaire (self-report)

ID #: \_\_\_\_\_

Voici quelques énoncés qui peuvent décrire le comportement des mères envers leurs enfants. Veuillez indiquer quel énoncé correspond à votre situation en général.

		VRAI POUR MOI		PAS VRAI POUR MOI	
		Presque Toujours Vrai	Parfois Vrai	Rarement Vrai	Presque Jamais Vrai
1.	Je dis des bonnes choses de mon enfant.	_____	_____	_____	_____
2.	Je critique ou chicane mon enfant quand il(elle) n'est pas sage.	_____	_____	_____	_____
3.	J'ignore complètement mon enfant.	_____	_____	_____	_____
4.	Je me demande si j'aime vraiment mon enfant.	_____	_____	_____	_____
5.	Je parle de nos projets et de notre routine quotidienne avec mon enfant et j'écoute ce qu'il(elle) à dire.	_____	_____	_____	_____
6.	Je me plains de mon enfant auprès des autres quand il(elle) ne m'obéit pas.	_____	_____	_____	_____
7.	Je m'intéresse réellement à mon enfant.	_____	_____	_____	_____
8.	J'encourage mon enfant à inviter ses ami(e)s à la maison et je les reçois bien.	_____	_____	_____	_____
9.	Je ridiculise mon enfant et je me moque de lui(elle).	_____	_____	_____	_____
10.	Je m'occupe de mon enfant seulement pour le(la) chicaner.	_____	_____	_____	_____
11.	Je crie après mon enfant lorsque je suis fâchée.	_____	_____	_____	_____
12.	J'aide mon enfant à dire ce qui lui tient à coeur.	_____	_____	_____	_____
13.	Je suis méchante avec mon enfant.	_____	_____	_____	_____

	VRAI POUR MOI		PAS VRAI POUR MOI	
	Presque Toujours Vrai	Parfois Vrai	Rarement Vrai	Presque Jamais Vrai
14. J' aime avoir mon enfant auprès de moi.	_____	_____	_____	_____
15. Je félicite mon enfant quand il(elle) travaille bien.	_____	_____	_____	_____
16. Je frappe mon enfant même quand il(elle) ne le mérite pas.	_____	_____	_____	_____
17. J'oublie des choses que je suis censée faire pour mon enfant.	_____	_____	_____	_____
18. Mon enfant est un fardeau pour moi.	_____	_____	_____	_____
19. Je fais des compliments sur mon enfant aux autres.	_____	_____	_____	_____
20. Je punis sévèrement mon enfant quand je suis en colère.	_____	_____	_____	_____
21. Je m'assure que mon enfant mange bien.	_____	_____	_____	_____
22. Je parle à mon enfant avec chaleur et amour.	_____	_____	_____	_____
23. Je perds patience facilement avec mon enfant.	_____	_____	_____	_____
24. Je suis trop occupée pour répondre aux questions de mon enfant.	_____	_____	_____	_____
25. J'ai l'air de ne pas aimer mon enfant.	_____	_____	_____	_____
26. J'encourage mon enfant lorsqu'il(elle) le mérite.	_____	_____	_____	_____
27. Je suis facilement irritée avec mon enfant.	_____	_____	_____	_____
28. Je veux savoir qui sont les ami(es) de mon enfant.	_____	_____	_____	_____

		VRAI POUR MOI		PAS VRAI POUR MOI	
		Presque Toujours Vrai	Parfois Vrai	Rarement Vrai	Presque Jamais Vrai
29.	Je m'intéresse vraiment à ce que mon enfant fait.	_____	_____	_____	_____
30.	Je dis beaucoup de choses désagréables à mon enfant.	_____	_____	_____	_____
31.	J'ignore mon enfant quand il(elle) demande mon aide.	_____	_____	_____	_____
32.	Je n'éprouve aucune sympathie quand mon enfant à des problèmes.	_____	_____	_____	_____
33.	Je fais en sorte que mon enfant se sente désiré et utile.	_____	_____	_____	_____
34.	Je dis à mon enfant qu'il(elle) me tombe sur les nerfs.	_____	_____	_____	_____
35.	Je donne beaucoup d'attention à mon enfant.	_____	_____	_____	_____
36.	Je dis à mon enfant à quel point je suis fier quand il(elle) est sage.	_____	_____	_____	_____
37.	Je fais de la peine à mon enfant.	_____	_____	_____	_____
38.	J'oublie des choses importantes dont mon enfant pense que je devrais me souvenir.	_____	_____	_____	_____
39.	Quand mon enfant est méchant je lui fais sentir que je ne l'aime plus.	_____	_____	_____	_____
40.	J'accorde de l'importance à ce que mon enfant fait.	_____	_____	_____	_____
41.	Lorsque mon enfant fait quelque chose de mal je lui fais peur ou le(la) menace.	_____	_____	_____	_____
42.	J'aime passer du temps avec mon enfant.	_____	_____	_____	_____



	VRAI POUR MOI		PAS VRAI POUR MOI	
	Presque Toujours Vrai	Parfois Vrai	Rarement Vrai	Presque Jamais Vrai
43. J'essaye d'aider mon enfant quand il(elle) a peur ou est bouleversé(e).	_____	_____	_____	_____
44. J'humilie mon enfant devant ses ami(e)s quand il(elle) fait des bêtises.	_____	_____	_____	_____
45. J'essaye d'être le moins souvent possible avec mon enfant.	_____	_____	_____	_____
46. Je me plains au sujet de mon enfant.	_____	_____	_____	_____
47. Je trouve que les idées de mon enfant sont importantes et j'aime les entendre.	_____	_____	_____	_____
48. Je trouve que les autres enfants font tout mieux que mon enfant.	_____	_____	_____	_____
49. Quand je fais des projets je tiens compte des désirs de mon enfant.	_____	_____	_____	_____
50. Je laisse mon enfant faire ce qui est important pour lui(elle), même si ça ne me convient pas.	_____	_____	_____	_____
51. Je trouve que les autres enfants se conduisent mieux que mon enfant.	_____	_____	_____	_____
52. Je demande à d'autres de s'occuper de mon enfant (un voisin ou un parent, par exemple).	_____	_____	_____	_____
53. Je laisse mon enfant savoir qu'il(elle) n'est pas désiré(e).	_____	_____	_____	_____
54. Je m'intéresse aux choses que mon enfant fait.	_____	_____	_____	_____
55. J'essaie de réconforter mon enfant quand il(elle) est triste ou malade.	_____	_____	_____	_____
56. Je dis à mon enfant que j'ai honte quand il(elle) se comporte mal.	_____	_____	_____	_____

		VRAI POUR MOI		PAS VRAI POUR MOI	
		Presque Toujours Vrai	Parfois Vrai	Rarement Vrai	Presque Jamais Vrai
57.	Je laisse savoir à mon enfant que je l'aime.	_____	_____	_____	_____
58.	Je suis douce et gentille avec mon enfant.	_____	_____	_____	_____
59.	Je fais sentir mon enfant honteux(se) et coupable quand il(elle) se conduit mal.	_____	_____	_____	_____
60.	J'essaye de rendre mon enfant heureux(se).	_____	_____	_____	_____

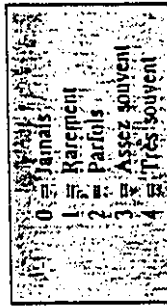
**Appendix J**

**Peer Matrix combining PEI and DIAS items**

**(French Version)**

L'INDIVIDU DANS SON MILIEU  
LE COMPORTEMENT DE TES CAMARADES DE CLASSE

Sur les pages qui suivent, dis-nous comment chacun de tes camarades de classe agit avec les autres.  
Réponds aux questions en donnant le numéro qui semble décrire le plus possible le comportement de tes camarades de classe.



Commence avec la première question et donne une réponse pour chacun de tes camarades de classe, ensuite continue avec la deuxième. Assure-toi que tu as donné une réponse à chacun de tes camarades de classe, même à ceux qui sont absents aujourd'hui. Et surtout, il ne faut pas l'oublier! Je te rappelle que toutes les informations sont gardées strictement confidentielles.

Exemple: Incrire le nom de tes camarades de classe du même sexe que toi.

\_\_\_\_\_

1) Aime manger de la crème glacée:

\_\_\_\_\_

2) Aime pratiquer des sports:

\_\_\_\_\_





