YOUNG CHILDREN'S AGGRESSION AND
SELF-ASSERTION DURING SIBLING CONFLICT:
SEX DIFFERENCES AND PARENTS' REACTIONS

by

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ABSTRACT

This study examined sex differences in children's aggression and self-assertion during sibling conflict, and whether parents responded differently to such behaviours in their daughters and their sons. Forty families were observed in their homes for a total of 18 hours at two different time periods. The interval between observation sessions was approximately two years. Sibling conflicts that arose naturally during these observations were the focus of the present study. At time 1, the children were approximately 2½- and 4½-years-old, and there was an equal number of all possible sister/brother combinations.

As expected, boys engaged in more physical aggression and property damage than girls. Surprisingly, boys and girls became more similar over time in terms of how often they engaged in physical aggression and assertion, and this result was attributable to a greater decline in boys' hostile physical behaviour. Girls and boys engaged in similar rates of verbal aggression, with the exception that boys insulted more often than their female counterparts. There were no sex differences in any of the verbal assertion categories. The sex of the interaction partner had a minimal impact on levels of children's aggression and assertion.

The physical aggression and physical assertion categories were combined to form a physical conflict variable. Parents prohibited boys' physical conflict more than girls' physical conflict, whereas they showed no response more often to girls' than to boys' physical conflict. By the second time period there was some evidence that parents were having success in this endeavour. Parents' more frequent prohibition of their older boys' physical conflict appeared to contribute to lower levels of this behaviour when the older boys were 6-years-old. Additionally, younger children's physical conflict at the second time period was related to parents' concurrent prohibitions of their older children's physical conflict as well as the level of physical conflict displayed by older children at the first time period. It appears that older siblings' behaviour and parents' treatment of older children are both important influences on how younger children behave.

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DEDICATION

With love, and gratitude for their endless support, I dedicate this thesis to my parents, Lloyd and Delphine Martin.

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INTRODUCTION

Aggression and Self-assertion

Much attention in the research literature has focussed on childhood aggression. This focus is understandable given the potential severity and negative consequences of aggression. It is interpersonally destructive, longitudinally stable, and one of the major reasons for children's treatment referral (Rubin, Stewart, & Chen, 1995). For example, aggressive behaviour that is frequent and severe is an integral component of externalizing and disruptive behaviour disorders (Achenbach & Edelbrock, 1978; Cole & Zahn-Waxler, 1992). Also, the long-term outcomes for aggressive children are not positive; poor school performance and early dropout, peer rejection, delinquency, and adolescent parenthood have all been related to early aggressive behaviour (Cairns & Cairns, 1994; Farrington, 1991; Kupersmidt & Coie, 1990; Offord, Boyle, & Racine, 1991; Serbin, Moskowitz, Schwartzman, & Ledingham, 1991). It is noteworthy that, within the study of aggression, two domains that are particularly relevant to this study have received much less attention. First, destructive sibling conflict, which involves malevolence, physical aggression, negative affect, coercion, and unsatisfactory outcomes, is a common phenomenon (Emery, 1992; Vandell & Bailey, 1992). Despite the frequency of destructive sibling conflict, physical aggression has rarely been the focus of studies of sibling relationships (Shantz & Hartup, 1992). Second, research on childhood aggression has tended to focus on boys', not girls' aggression. It has been suggested that this bias is due to girls' tendency to show lower levels of overt physical aggression than boys (Crick, 1995; Crick & Grotpeter, 1995; Zoccolillo, 1993).

In comparison to aggression, children's self-assertions have been studied much less frequently. Self-assertion is a relatively less hostile and intense behaviour, and it also tends to be more socially acceptable and constructive than aggression. Aggression and self-assertion are both behaviours that are used to attain a desired goal, but with aggression the goal is typically to do harm, whereas with self-assertion the focus is more on control or resistance. Attili and Hinde (1986) have differentiated aggression and assertion in terms of their underlying motivation. They argue that underlying aggression is a "general propensity

towards violence" that is reasonably consistent across situations, whereas the main motivation behind assertiveness is "to elevate one's position or push oneself forwards, whether in general terms or in relation to particular objects or goals" (p. 20). These authors argue that both motivations come into play to varying degrees in different forms of aggression; for example, instrumental aggression involves moderate levels of both assertiveness and aggressiveness, whereas hostile aggression is predominately motivated by aggressiveness. Particularly when they arise during a conflict situation, another common feature shared by aggression and self-assertion is the possibility that their expression was motivated by anger. Stein and her colleagues (Stein & Levine, 1989;1990; Stein, Levine, & Trabasso, 1993) have outlined the characteristics of situations in which anger is expressed. They argue that anger is experienced when a goal is blocked and it is believed that there is a course of action that would allow for attainment of that goal. Similarly, Izard (1991) states that anger communicates that retaliation against the instigator of a blocked goal state is deemed to be possible. Berkowitz (1989) also reports that frustration and goal-blocking are known to result in anger under both experimental and natural conditions, and argues that frustrations prompt aggressive action to the degree that they arouse negative affect. Anger does not always result in aggression, but aggression is one potential manifestation of this emotion (Averill, 1983; Rothenberg, 1971). Indeed, the link between angry feelings and aggression is quite evident given the intensity and hostility of aggressive behaviour. Moreover, in the research literature, anger and aggression are often discussed interchangeably (Tangney, Hill-Barlow, Wagner, Marschall, Borenstein, Sanftner, Mohr, & Gramzow, 1996).

In comparison to aggression, self-assertion likely arises more often without strong accompanying emotion. However, if self-assertion occurs following the blocking of a desired goal, as in a conflict situation, Stein's position would suggest that anger motivated the self-assertion. Also, it is possible that in comparison to children who respond aggressively when they are angry, children who engage in self-assertion at such a time may experience angry feelings that are just as intense, but they are better able to regulate their negative emotions and act in a controlled manner. There is evidence that self-assertion is one strategy that is used by angry children. Von Salisch (1995) found that the strategies

children rated that they would use when they were angry with a specific same-sex friend fell into four clusters. These behavioural strategies included Confrontation and Harming, Distancing, Explanation and Reappraisal, and Humour. Depending on the intensity of self-assertion, it can be argued that self-assertion shares features with two of Von Salisch's strategies: Explanation, which included both verbal exchange and reconciliation over what had made one friend angry at the other, as well as Confrontation.

In summary, aggression and assertion are both behaviours that are used to attain a desired goal, and they can also both be associated with the emotion of anger. In general, angry feelings are more likely to accompany aggression, but in the midst of sibling conflict, assertive behaviour is arguably often associated with angry feelings. Aggression and assertion differ in the degree to which their expression is motivated by the desire to do harm, and the extent of regulation involved in their expression.

Benefits of Regulated Behavioural Expressions of Anger. The dysfunctional nature of anger is often emphasized, particularly in clinical theory. Underwood, Coie, & Herbsman (1992) state that anger is an "enormously conflictive" emotion for most people in our culture given the strong cultural taboos placed on the expression of harsh emotions (p. 367). Societies seek to channel and control angry actions because of the damage that intense, un-modulated anger can do to self, other, and property (Stenberg & Campos, 1990). However, in a functionalist perspective, anger can also be considered to be adaptive because it engages and activates individuals, promotes persistence in the face of challenges, induces self-confidence and facilitates communication (Ferguson, Sorenson, Bodrero, & Stegge, 1996; Izard, 1991; Novaco, 1976; Rothenberg, 1971; Stenberg & Campos, 1990; Zahn-Waxler & Cole, 1995). Averill (1983) reported that although anger episodes were generally experienced as unpleasant, instigators and targets were more likely to report beneficial consequences (e.g., realized own faults) than harmful consequences (e.g., more distant relationship) of anger episodes. In terms of parenting, cajoling, unassertive requests, and gentle reprimands can often be ineffective as interventions (Bugental, 1985; Pfiffner & O'Leary, 1989; Zahn-Waxler, Radke-Yarrow, & King, 1979). Thus, to a certain extent, anger in discipline situations may also be beneficial. In addition, it has been suggested that different angers might exist, and little is known about the relationship between normative

anger and feelings of rage, hostility, and hate (Cole & Zahn-Waxler, 1992; Rothenberg, 1971).

Whether positive or negative consequences result from the expression of anger is often determined by the form and intensity of its behavioural expression. Indeed, the ability to control one's emotions is a significant developmental task for young children (Parke, Cassidy, Burks, Carson, & Boyum, 1992), and socialization theories emphasize the importance of regulating anger expression (Zahn-Waxler & Cole, 1995). As noted above, aggressive behaviour is prevalent in children's peer and sibling interactions (Vandell & Bailey, 1992), and its popularity may be due to the fact that aggression is a relatively unsophisticated strategy that can be very effective in attaining a desired outcome. However, this effectiveness is likely to be limited to achieving immediate goals, and short-term changes in behaviour. When anger is consistently expressed in the form of aggression, maladaptive immediate and long-term interpersonal and individual outcomes can result.

In comparison to aggression, self-assertion is arguably a more regulated, socially acceptable outlet for angry feelings. Feindler and her colleagues (1993) developed an anger response checklist which included aggression, assertion, submission, self-blame, and perceived injustice as possible responses to anger-provoking situations. The assertive category was argued to be the most appropriate response due to its calming, self-monitoring, non-aggressive, and goal-directed aspects (Feindler, Adler, Brooks, & Bhumitra, 1993). Similarly, in other scales, both assertion and aggression are viewed as being motivated by the desire to attain goals and protect individual rights, but with assertion these ends must be accomplished while still respecting the rights of others (Scanlon & Ollendick, 1986). In terms of a conflict strategy, self-assertion has the potential to be more constructive than aggression, as information is conveyed to the opponent who then can choose whether or not to acknowledge and work with this information in order to ease the tension of the conflict.

Self-assertion is also adaptive for the individual, as it can promote feelings of satisfaction, self-efficacy, pride, and personal control (Novaco, 1976). Self-assertion, as well as other overt expressions of negative affect, have been argued to provide children with a means to demonstrate their autonomy, which is considered to be an important developmental accomplishment (Crockenberg & Litman, 1990; Stein & Levine, 1989).

Erickson's (1963) developmental stage in which autonomy as opposed to shame and doubt is the preferred developmental accomplishment for children between the ages of 1 and 3 years highlights this point. Crockenberg and Litman (1990) found that mothers' negative, intrusive control (e.g., anger, criticism, threats) following children's self-assertion was the strategy that was most likely to elicit child defiance. On the other hand, control in combination with guidance (e.g., request and reasoning) following child assertion was the strategy least likely to be met with defiance, and most likely to elicit compliance. The authors argue that this latter parental response to children's assertion elicits positive reactions because it includes an implicit recognition that children are separate individuals from their parents, and that they have needs and wishes of their own, which serves to communicate respect for children's autonomy and individuality (Crockenberg & Litman, 1990).

The popularity of assertiveness training programs gives evidence for the perceived benefits of self-assertion for individual well-being (Scanlon & Ollendick, 1986), and such programs highlight the difference between aggression and assertion (Eagly & Steffen, 1986). In adolescents, instrumental, self-efficacious attributes have been argued to be an important factor in accounting for a substantial amount of the observed sex difference in depression. Females tend to show less of these attributes than males, and females significantly out-number males in receiving a depression diagnosis (Allgood-Merten, Lewinsohn, & Hops, 1990). Additionally, Crockenberg and Litman (1990) argue that self-assertion is conceptually and practically distinct from defiance, and cite evidence that self-assertion is associated with various forms of competence in young children. Similarly, assertiveness in a preschool setting was correlated with task orientation and positive emotion in four-year-old children. Children's assertiveness was associated with parents' positive emotion which also suggests that assertion is a psychologically adaptive characteristic (Denham, Renwick, & Holt, 1991).

Consequences of Anger Suppression. Stein and colleagues argue that anger is experienced when a goal is blocked, and it is believed that there is a course of action to take to attain that goal. In contrast, sadness is felt when a goal is blocked, and there seems to be no apparent way of rectifying the situation (Stein & Levine, 1989; 1990; Stein et al., 1993).

Given this distinction, it is likely that anger would impel action to achieve a goal, whereas sadness would not result in such action. If anger expression is routinely and sufficiently curtailed by the environment (e.g., through parental discouragement), it is rendered to be an ineffective way to attain a goal that has been blocked. Over time, it is likely that such a socialization message would result in the belief that there is no course of action that can be taken to rectify situations in which a desired goal is blocked. Thus, sadness, as opposed to anger, would be experienced in response to a blocked goal, and action inhibited.

A similar position is taken by Zahn-Waxler (1993) who argues that the routine discouragement of anger expression may lead to a separation of the emotion from the overt behaviour and result in different developmental pathways for expressing angry feelings. She further states that such a process would likely provide protection against the development of externalizing behaviour disorders, but it may contribute to the development of internalizing problems. Internalizing behaviour disorders are characterized by anxiety, depression, and social withdrawal (Achenbach & Edelbrock, 1978; Cole & Zahn-Waxler, 1992). These disorders may not be as readily detected as externalizing behaviour problems because they are less outwardly apparent and immediately aversive for others, but they are arguably just as harmful for the individual (Zahn-Waxler, 1993). In support of this argument, Hooven, Gottman, & Katz (1995) found that mothers' rejection of their children's anger was positively correlated with teacher-reported children's internalizing behaviour. In addition, oversocialization and passivity in 7-year-old girls were two characteristics that were strongly related to later depressive symptomology in adolescence (Block, Gjerde, & Block, 1991). It is not argued that children with internalizing symptomology do not feel angry, but rather that their anger is expressed against the self in the form of sad or anxious feelings as opposed to in the form of disruptive behaviour such as aggression. Izard (1991) also notes that inner-directed anger in combination with sadness and other emotions can lead to depression. Indeed, Rothenberg (1971) argued that anger "arises as an alternative to and defense against anxiety" (p. 460). Likewise, Cole and Zahn-Waxler (1992) suggested that both anger and sadness are dysregulated in externalizing disorders. Disruptive children are argued to experience sadness but they may cope with these feelings in a different way than non-problem behaviour children. Sadness in disruptive children might arouse anger, or this

emotion might be experienced in a mild form, which could result in the communication of indifference instead of sadness.

The routine discouragement of behavioural expressions of anger can also result in guilt reactions on occasions when anger is displayed. This is likely to be particularly true when guilt induction is the method employed by parents to discourage their children's anger expression. Appropriate guilt plays a beneficial role in society, because it highlights the importance of moral behaviour, inhibits transgressions, motivates reparative actions, and helps to maintain emotional attachments (Barrett, 1995; Baumeister, Stillwell, & Heatherton, 1994; Ferguson et al., 1996; Zahn-Waxler & Robinson, 1995). For the above reasons, guilt is an emotion that is valued by society, and can be a desired socialization outcome for parents (Zahn-Waxler & Robinson, 1995). Excessive guilt, however, is characteristic of internalizing symptomology such as over-generalized responsibility (e.g., feeling blameworthy for the problems of others), anxiety concerning wrongdoing, excessive empathizing with others, and feelings of inadequacy due to the belief that one is always falling short of others' expectations. Pervasive guilt is also frequently a symptom of depression (Baumeister et al., 1994; Ferguson et al., 1996; Zahn-Waxler et al., 1991; Zahn-Waxler & Robinson, 1995). Individuals with such heightened interpersonal sensitivity are at risk of putting others' needs ahead of their own, which can inhibit self-definition and development (Gjerde, 1995; Zahn-Waxler et al., 1991). It is likely that not only excessive, but also misplaced guilt that arises following behaviour that is falsely interpreted as wrong or harmful (e.g., children's self-assertion), can have such negative consequences.

Summary. Aggression and self-assertion are both behaviours that often occur when a desired goal is blocked. Particularly when these behaviours arise during a conflict situation, they may also share the common feature of being motivated by anger. Aggression and self-assertion differ, however, in the hostility, intensity, and destructiveness of their expression. With aggression the main goal tends to be to inflict harm, whereas with assertion the focus is on control or resistance. The expression of both anger and guilt can serve an adaptive function for individuals and for society, but as Zahn-Waxler & Robinson (1995) note, "in cases of excess, deficiency, or poor regulation, any emotion can become problematic" (p. 163). Clearly when anger is outwardly expressed as aggression there can be

negative consequences; however, a certain degree of anger expression, particularly when it takes a more regulated behavioural form such as self-assertion, is important for autonomy development and feelings of self-efficacy. Stein and colleagues argue that sadness occurs when goals are blocked and seem inaccessible. Thus, the consistent discouragement of behavioural expressions of anger may result in anger being experienced as sadness due to the feeling that nothing can be done to achieve a desired goal or to escape an unpleasant situation (Stein & Levine, 1989; 1990; Stein et al., 1993). Likewise, Zahn-Waxler and colleagues argue that the routine curtailment of angry feelings may result in different developmental pathways for this emotion, a process which may lead to internalizing problems such as anxiety and depression. Another negative outcome of the routine discouragement of anger is the experience of guilt when anger is expressed, and excessive guilt is associated with internalizing problems (Zahn-Waxler, 1993; Zahn-Waxler et al., 1991; Zahn-Waxler & Robinson, 1995).

Sex Differences in Aggression and Self-assertion

Sex Differences in Anger Expression and Aggression: Infants and Toddlers. A well-documented sex difference is girls' tendency to show less overt aggression than boys (Cairns & Cairns, 1994; Cohn, 1991; Crick & Grotpeter, 1995; Maccoby & Jacklin, 1974; Parke & Slaby, 1983). Primary emotions such as anger, fear, joy, and distress are universally displayed by children during the first year of life, and shortly thereafter their meaning can be interpreted by children (Dunn et al., 1987). For example, facial expressions associated with anger in adults are present as early as 3 to 4 months of age (Coie & Dodge, 1997; Izard, Fantauzzo, Castle, Haynes, Rayias, & Putnam, 1995; Mascolo & Fischer, 1995). In their review paper on the development of aggression, Loeber & Hay (1997) state that although in infancy there is little evidence for sex differences in potential precursors to aggression, infant boys have been found to be more emotionally labile than girls. In particular, infant boys were found to be more likely to show angry facial expressions than girls (Weinberg & Tronick, 1997). However, other investigators have either found no sex differences, or that female infants showed more facial anger than male infants (Malatesta, Grigoryev, Lamb,

Albin, & Culver, 1986). A factor that might help account for such discrepant findings is the difficulty that researchers have had finding a uniform and specific behavioural metric for facial anger expression in infants (Stenberg & Campos, 1990).

Children's first acts of physical aggression have been observed at the end of the first year of life. In an observational study, 12-month-old children responded with protest and aggressive retaliation to peer provocation (Caplan, Vespo, Pederson, & Hay, 1991), whereas 6-month-old children did not appear to be bothered by a similar situation (Hay, Nash, & Pedersen, 1983). These young children tended to respond in a neutral, or even positive manner, to being touched by, or having same-aged peers touch a toy in their possession (Hay et al., 1983). Toddler-age girls' and boys' aggression is argued to also be quite similar during both peer and sibling interaction (Hay, Vespo, Zahn-Waxler, & Radke-Yarrow, 1993; Vespo, Pedersen, & Hay, 1995), although a few sex differences have been found (Loeber & Hay, 1997). In peer groups of 1- to 2-year-old children, those with a majority of boys showed more conflict and personal force than groups with a majority of girls (Caplan et al., 1991). In a sample of 2-year-old children of depressed and well mothers, boys showed higher levels of atypical, dysregulated aggression than girls during peer interaction, but girls and boys showed equivalent levels of object struggles and rough play (Zahn-Waxler, Iannotti, Cummings, & Denham, 1990). Two studies show evidence for the importance of the 2- to 3-year-old period in terms of changes in girls' use of aggression. Goodenough (1931) found that angry outbursts and aggressive behaviour peaked at 2 years of age and were of equal magnitude for both girls and boys. However, the decline in this behaviour was steep and abrupt for girls, and slower and steady for boys. Similarly, Smetana (1989) found that at 2 years of age, boys and girls engaged in a similar rate of moral transgressions (physical aggression and object conflicts) while interacting at home with familiar peers, with girls tending to show slightly higher levels. However, at 3 years of age, girls, but not boys, showed a significant drop in moral transgressions which resulted in boys engaging in nearly twice as many moral transgressions as girls at this age (Smetana, 1989).

Sex Differences in Aggression and Self-assertion: Preschool and School-age Children. In correspondence with the above studies, it has been reported in reviews of children's aggressive behaviour that marked sex differences in aggression emerge between

the ages of 3 and 6 years when children are entering into organized peer-groups for day-care or school (Coie & Dodge, 1997; Loeber & Hay, 1997). By this age, studies consistently show that boys engage in higher rates of overt physical aggression than girls (Cairns & Cairns, 1994; Cohn, 1991; Crick, 1997; Crick & Grotpeter, 1995; Maccoby & Jacklin, 1974; Parke & Slaby, 1983). During conflict with peers, boys are more likely than girls to engage in physical contact, refuse to comply, assert their dominance using commands, threats, and physical aggression, and engage in verbal taunting. Girls, on the other hand, more often attempt to mitigate conflicts (e.g., through clarification, compromise, avoidance, acquiescence, indirect anger), criticize in acceptable ways, and agree with their conflict partners (Maccoby & Jacklin, 1987; Miller et al., 1986; Sheldon, 1992). Similarly, 9- to 11-year-old boys were more likely than same-aged girls to report that they would choose confrontational behaviour (e.g., hitting, yelling, thoughts of revenge) as the strategy that they would use when they were angry with a same sex peer (Von Salisch, 1995). Serbin, Sprafkin, Elman, & Doyle (1984) found that between $3\frac{1}{2}$ and $5\frac{1}{2}$ years of age, children increasingly attempted to influence their play partners' behaviour. For girls, this predominately took the form of polite suggestions, whereas boys more often used direct demands. In studies in which children's narratives in response to hypothetical situations of conflict and distress were examined, girls were found to express more relationship-oriented themes and prosocial behaviour, and boys more avoidance, anger, and aggression (Shepard, Loman, Cohen, & McMahon, 1995; Zahn-Waxler, Cole, Darby Welsh, & Fox, 1995; Zahn-Waxler, Cole, Richardson, Friedman, Michel, & Belouad, 1994). Also, in an interview about peer conflict that was based on a simulated dispute between puppets, 5-year-old girls were more likely to recommend socialized tactics (pursuit of self-interest in a socially appropriate manner, e.g., "Ask nicely") than were same-aged boys (Hay, Zahn-Waxler, Cummings, & Iannotti, 1992). It has been suggested that girls' and boys' social groupings have different conduct rules in which the restrictions surrounding overt aggressive behaviour appear to be stronger in girls' groups (Crick, 1997; Maccoby, 1986). Moreover, it has been argued that girls' expectations of friendship include intimacy and one-on-one communication, which are both quite incompatible with aggression, whereas boys' friendships are based more on activities and instrumental support (Blyth & Foster-Clark,

1987; Maccoby, 1986; Whitesell & Harter, 1996). Thus, girls may risk rejection if they show overt hostility, or even disagreement, whereas aggression is more acceptable in boys' groups. Indeed, studies have found that aggression is more strongly associated with peer rejection for girls than for boys (e.g., Bukowski, Gauze, Hoza, & Newcomb, 1993; Lancelotta & Vaughn, 1989).

As early as 2 years of age, girls are not only beginning to engage in less angry and aggressive behaviour than boys but they also appear to be more uncomfortable than boys when in an angry environment. For example, girls show more overt distress when witnessing inter-adult anger and are more likely to express a desire to stop such arguments whereas boys are more likely to respond with aggression (Cummings, Iannotti, & Zahn-Waxler, 1985; El-Shiekh & Reiter, 1995). In general, children often feel responsible for adult anger (Covell & Abramovitch, 1987), and this might be particularly true for girls given their susceptibility to feeling responsible for the well-being of others (Brody, 1985; Zahn-Waxler et al., 1991). It is not only young girls who appear to be uncomfortable with anger expression. Zahn-Waxler (1993) gives compelling anecdotal evidence for women's fear over expressing their anger, noting that it is not uncommon to hear women describe "strong concerns about the perceived *irreparable* harm their anger would create in their interpersonal relationships" (p. 87, italics are Zahn-Waxler's).

Although childhood aggression is a popular research topic, there has been a relative lack of attention given to the study of girls' aggression. This gap has been attributed to the fact that girls tend to show little overt physical aggression in comparison to boys (Coie & Dodge, 1997; Crick, 1995; 1997; Crick & Grotpeter, 1995). It has been argued by several investigators that girls are more likely to use verbal aggression than physical aggression (Bjorkqvist et al., 1992; Cairns et al., 1989; Ledingham, 1991; Loeber & Hay, 1997). In an observational study of the classroom behaviour of elementary-school children, no overall sex differences were found in aggressive behaviour. However, boys were reported to engage in more physical aggression than girls, and girls used more verbal aggression than boys (Archer, Pearson, & Westeman, 1988). Using peer ratings of 11- and 15-year-old children's aggressive behaviour, Bjorkqvist and colleagues found that although boys showed higher levels of physical aggression, verbal aggression was used equally frequently by girls and

boys (Bjorkqvist et al., 1992; Lagerspetz, Bjorkqvist, & Peltonen, 1988). Similarly, Lowenstein (1977) studied bullying behaviour in school-age children and found that there were considerably more male bullies than female bullies. There were also differences in their preferred form of aggressive behaviour; female bullies were more likely to use verbal and psychological aggression, whereas boy bullies used physical aggression. On the other hand, studies of peer conflict have found that boys engage in more threats, commands, and verbal taunting than girls (Maccoby & Jacklin, 1987; Miller et al., 1986), and in general it is argued that boys are more likely than girls to engage in verbal threats of aggression (Galen & Underwood, 1997). Koyama and Smith (1991) observed 4-year-old children in their nursery school class and found that boys engaged in more harassment and teasing than girls. Additionally, Bjorkqvist and his colleagues also examined sex differences in the use of direct aggression (physical and verbal) and indirect aggression (e.g., gossips, suggests exclusion of another) and found that direct aggression was more common among boys than girls, whereas girls used more indirect aggression than boys (Bjorkqvist et al., 1992; Lagerspetz et al., 1988). These investigators concluded from their findings that the distinction between indirect and direct aggression as opposed to verbal and physical aggression might be a better way to characterize the difference between girls' and boys' aggression.

Similarly, there is one situation in which girls have consistently been found to be more aggressive than boys, and that is when relational aggression (harming others through damage to their peer relationships) is considered. Relational aggression often occurs indirectly, and possible forms that it can take include the spreading of injurious rumours, threatening to withdraw friendship or acceptance, and angry retaliation through exclusion of the victim from a peer group (Crick, 1995; Crick & Grotpeter, 1995). Sex differences in relational aggression are also present at a young age. Crick, Casas, & Mosher (1997) found that preschool-age girls were reported by peers and teachers to engage in higher levels of relational aggression than same-aged boys. Additionally, boys in this study were found to be more overtly aggressive than girls. Cairns and his colleagues (1989) found that girls were much more likely to report conflict themes that involved the manipulation of group acceptance through alienation, ostracism, and character defamation whereas boys were more

likely to report using direct physical confrontation. Moreover, these investigators reported that although girls' conflicts can continue to involve direct confrontation, the rate at which girls reported themes of social alienation increased from grade 4 to grade 7, whereas boys consistently chose direct physical confrontation as their primary conflict strategy (Cairns et al., 1989; Cairns & Cairns, 1991;1994). Galen and Underwood (1997) studied social aggression, which is similar to relational aggression with the exception that it also included direct verbal rejection, and negative facial expressions and body movements. These investigators examined children in grade 4, 7, and 10, and they only found higher rates of social aggression for girls in comparison to boys in Grade 10. However, similar to Cairns' findings, girls' social aggression tended to increase over time, whereas boys' social aggression tended to decrease over time. Galen and Underwood (1997) suggested that the lack of greater sex difference showing higher rates of social aggression in girls might be partially attributable to the inclusion of disdainful facial expressions which might be more common in boys than other forms of indirect and relational aggression. For the same reason, it is possible that the inclusion of direct verbal rejection also minimized the sex difference. A recent study by Tomada and Schneider (1997) gave evidence that the cultural group being studied is an important factor in research on relational aggression. These investigators found higher rates of both overt and relational aggression in Italian boys than in Italian girls. However, analysis of the type of aggression engaged in by only the more aggressive children in the sample showed that relatively aggressive girls were much more likely to engage in relational aggression than overt aggression.

Crick and Grotpeter (1995) concluded from the results of their study on relational aggression that previous studies have under-estimated girls' use of aggression because the kind of aggression that is most relevant to girls' peer groups (e.g., relational aggression) has not been the focus of study. Girls and boys are both aggressive, they are just likely to show different forms of this behaviour (Crick & Grotpeter, 1995; Lagerspetz et al., 1988). In addition, Loeber and Hay (1997) note that there is some evidence from observational studies that girls are more likely than boys to refrain from use of physical aggression when adults are watching. Pepler and Craig (1995) used remote audiovisual recording to monitor children's playground behaviour and found that girls' rate of bullying was as high as boys', but when

asked, girls were much less likely than boys to report that they bullied others. Additionally, girls have are been found to be more likely to mask their anger than boys, and particularly when in the presence of adults (Underwood et al., 1992).

Sex Differences in Sibling Aggression. Loeber and Hay (1997) suggest that sex differences in young children's aggression are less substantial in sibling interaction than within girls' and boys' peer groups. Research by Dunn (1993) that indicated that both girls and boys reported relatively high rates of physical aggression with their siblings was cited to support this claim. Studies based on observational and parent report data, however, have revealed mixed findings. Vespo, Pedersen, & Hay (1995) examined the interactions of sibling pairs, aged 2 and 4 years, in a laboratory situation and found no sex differences in the children's use of aggression. However, it is noteworthy that this study was run in a laboratory setting and peer interaction was also studied. In both the peer and sibling studies aggression was rare overall, and sex differences were also not found in peer-directed aggression. It is possible that the nature of the lab sessions (e.g., short in length and availability of four novel toys) was not conducive to aggressive interaction. In a home observational study of sibling interaction, Kendrick and Dunn (1983) found that physical quarrels (e.g., involving hitting, poking, pinching) were equally frequent in families with first-born girls and first-born boys that were approximately 3 years of age. On the other hand, Abramovitch, Corter, & Lando (1979) observed sibling pairs, in which the younger child was 1½ years and the older child either 3 or 4½ years, in their homes and found that boys engaged in more physical aggression than girls. Mixed results were found for verbal aggression: In small interval sibling pairs boys engaged in more verbal aggression than girls, whereas in large interval sibling pairs girls engaged in more verbal aggression than boys. However, at the second and third observation periods (approximately 1½ and 3½ years later), male and female siblings engaged in similar levels of both verbal and physical aggression. Brody, Stoneman, MacKinnon, & MacKinnon (1985) examined preschool-age and school-age same-sex sibling pairs during home observations. In the preschool-aged sibling pairs the younger children ranged in age from 2½ to 4½ years and the older children ranged in age from 4½ to 6½ years. In the school-aged sibling pairs the younger children ranged in age from 4½ to 6½ years and the older children ranged in age from 7 to 9 years. Preschool-aged

male siblings were found to engage in more agonistic behaviour than any other sibling pairing, but no sex differences were found for school-age sibling pairs. School-aged female siblings, however, engaged in the highest rate of prosocial behaviour. Finally, in a longitudinal study that examined first- and second-born children at 4, 6, and 10 years of age with their closest-in-age sibling, boys were observed and reported by parents to exhibit more aversive behaviours than girls. Additionally, first-born boys were reported to engage in more negative power (e.g., coercion, nagging, physical power) than first-born girls (Hetherington, 1988).

Summary of Sex Differences in Children's Aggression. In infancy and toddler-age children, sex differences in precursors to aggressive behaviour, and physical aggression are relatively rare. The 2- to 3-year-old period is an important time in terms of changes in girls' aggression. At this age girls' aggression has been found to drop dramatically, whereas boys' aggression shows stability or a more gradual decline. By the age of 3 years boys are consistently found to engage in higher levels of overt physical aggression than girls. The findings from research concerning sex differences in direct verbal aggression are mixed in terms of whether higher levels are shown by girls or boys. On the other hand, relational aggression, at least in North American samples, is consistently found to be more prevalent in girls. This type of aggression typically takes a verbal form, it is just predominately expressed indirectly as opposed to directly. Additionally, sex differences tend to be less substantial in sibling aggression than in aggression between peers.

Sex Differences in Empathy and Guilt Expression. A review of sex differences in the expression of empathy and guilt is included because the presence of these emotions would arguably act to discourage aggressive behaviour. For example, children who are sensitive to the feelings of others, and who are susceptible to experiencing guilt, an unpleasant negative emotion, when they have engaged in wrong-doing, would presumably be less likely to engage in aggression. It is possible that a contributing factor in girls' tendency to engage in lower levels of aggression than boys, is girls' greater likelihood of experiencing empathy and guilt. Mascolo and Fischer (1995) view the primary emotions (e.g., anger, joy, sadness, disgust) as precursors to the self-conscious, evaluative emotions (e.g., guilt, shame, pride, embarrassment) that emerge later in development. There is considerable research

support that by the second year of life, children are able to consistently show empathic concern for those in distress (e.g., give comfort through simple physical gestures) and engage in "guilt-like behaviour" following self-caused distress. For example, children make statements that indicate an awareness that they caused distress in another child (e.g., "hurt Sally"), use evaluative words to judge harmful actions as wrong, apologize, and engage in prosocial reparative behaviour (Mascolo & Fischer, 1995, p. 93; Zahn-Waxler & Robinson, 1995).

Substantial research support has been found for the more frequent expression of "moral emotions" (e.g., empathy and guilt) in girls than in boys (Zahn-Waxler et al., 1991; Zahn-Waxler & Robinson, 1995; Zahn-Waxler, Robinson, & Emde, 1992). Gilligan (1982) spoke of this characteristic in terms of women's moral orientation toward caring and responsibility. Females tend to be better than males at interpreting the emotions and nonverbal cues of others (Hall, 1978). Several studies have shown that empathy, guilt, and prosocial behaviour are more prevalent in females (Baumeister et al., 1994; Miller, Eisenberg, Fabes, Shell, & Gular, 1989; Eisenberg & Lennon, 1983; Zahn-Waxler & Robinson, 1995), although for empathy, sex differences favouring females are more likely to be found with self-report measures and responses to hypothetical situations, as opposed to behavioural observations of nonverbal reactions or psychophysiological measures (Eisenberg & Lennon, 1983). Importantly, this sex difference occurs early in development: Already at 2 years of age, in comparison to boys, girls have been found to show more empathic responses to the distress of others (Zahn-Waxler et al., 1991), and 3-year-old girls were found to show superior understanding of others' feelings on an affective-perspective taking task (Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991).

Girls are not only less likely to engage in angry and aggressive behaviour, but they also report that they are more likely than boys to expect to experience guilt, upset, negative self-evaluation, and parent and peer disapproval following acts of aggression (Boldizar, Perry, & Perry, 1989; Perry, Perry, & Rasmussen, 1986; Perry, Perry, & Weiss, 1989). Using maternal ratings of anger expressions in 1- to 2-year-old children, girls' anger was found to be more clearly linked with guilt and shame than boys' anger (Zahn-Waxler & Robinson, 1995). Similarly, adult females rated aggressive acts as more likely to result in

guilt and anxiety in the aggressor, and harm to the victim than adult males (Eagly & Steffen, 1986). Adolescent boys, on the other hand, were significantly more likely than adolescent girls to believe that aggression increases self-esteem, and that victims of aggression do not suffer (Slaby & Guerra, 1988).

Girls also act in ways that correspond with their emotions and stated beliefs following anger expression: Positive correlations were found for 2-year-old girls, but not boys, between their aggression and reparative behaviours (Cummings, Hollenbeck, Iannotti, Radke-Yarrow, & Zahn-Waxler, 1986). Additionally, high-risk, disruptive young girls were found to show high levels of both anger and caring for others in their reactions to hypothetical situations of conflict and distress (Zahn-Waxler et al., 1994). Although this finding does not show direct evidence for a link between girls' anger expression and guilty feelings, it highlights the fact that even girls with severe externalizing behaviour problems show a significant degree of interpersonal sensitivity.

Internalizing and Externalizing Behaviour Problems. Since aggression is more common in boys, and aggression is a key symptom of externalizing disorders, it is not surprising that boys out-number girls in receiving such a diagnosis. Likewise, given that girls are less likely to show overt aggression and more likely to express moral or self-conscious emotions, it follows that they are more likely than boys to suffer from internalizing behaviour problems (e.g., anxiety, fearfulness, depressed mood) (Ruble, Greulich, Pomerantz, & Gochberg, 1993; Zahn-Waxler, 1993). Similarly, studies suggest that when children experience problems in maritally discordant homes, boys tend to show externalizing difficulties whereas girls' problem behaviours tend to be in the internalizing realm (Katz & Gottman, 1993). Noteworthy also, is the existence of a "gender paradox of co-morbidities": Although externalizing behaviour disorders are less common in girls than in boys, those girls that are disruptive are more likely than their male peers to have a co-morbid internalizing condition (p. 44, Zahn-Waxler et al., 1995; Cole & Zahn-Waxler, 1992; Zahn-Waxler et al., 1994; Zahn-Waxler & Cole, 1995).

Zahn-Waxler and colleagues examined the anger and aggression that was expressed by disruptive young children in their symbolic doll play. Verbal anger (e.g., "I hate you") and physical anger (e.g., actions that conveyed anger but that stopped short of harm-doing)

were more common in girls than in boys. On the other hand, levels of verbal aggression (e.g., threats of harm) were similar in girls and boys, and boys tended to express more physical aggression (e.g., dolls that hit and pushed) than girls. These findings with disruptive children seem to indicate that anger that stops short of harm-doing was more characteristic of girls, while the more severe, harmful expression of anger was more characteristic of boys (Zahn-Waxler & Cole, 1995). Zoccolillo (1993) also argues that a lower level of aggressive behaviour should be required for girls to receive a diagnosis of conduct disorder than for boys. However, in their study of high-risk adolescents, Cairns and Cairns (1994) noted that when these girls were aggressive, they were often as hostile and hurtful as boys. Eddy and French (1995) also found that aggressive girls and boys were rated as showing similar levels of overt aversive behaviour.

Summary. In infants and toddler-age children, sex differences in physical aggression are minimal. By the age of 3 years, boys are consistently found to engage in more overt, physical aggression than girls. Some studies suggest that this sex difference is due to a dramatic decrease in girls' physical aggression between 2 and 3 years of age. Sex differences tend to be less extreme in sibling aggression, although a number of studies show higher levels of physical aggression in male siblings, and particularly in sibling pairs that are young in age (e.g., 4-years-old and under). In comparison to physical aggression, girls tend to show more verbal aggression. Additionally, girls are consistently found to engage in relational aggression at a much higher rate than boys. Overall, in comparison to boys, girls show less anger and engage in less overt physical aggression, they are more likely to experience empathy and guilt, and in particular, are more likely to feel guilt in association with anger expression. The existence of such sex differences supports the consistent research finding that females are more at risk for the development of internalizing symptomology, whereas males are more frequently diagnosed with externalizing behaviour problems (Ruble et al., 1993; Zahn-Waxler, 1993).

Socialization of Aggression and Self-assertion

Girls engage in less aggression, become more distressed in angry environments, and are more susceptible to feelings of guilt after engaging in aggressive behaviour than boys

(Boldizar et al, 1989; Cohn, 1991; El-Sheikh & Reiter, 1995; Perry et al., 1986; 1989). It is important to ask why girls tend to suppress their anger and aggression and associate guilt with its expression, particularly considering that internalizing problems are a possible consequence. Socialization is a factor that must be considered because discouragement of children's angry, aggressive behaviour, as well as the experience of guilt reactions following such behaviour, are to some extent, socialization goals. Also, expressions of anger and aggression have been found to decline abruptly after 2 years of age for girls (Goodenough, 1931; Smetana, 1989), and it is at this age that parents begin to consistently hold children responsible for their actions (Zahn-Waxler et al., 1991). This relationship suggests that differences in girls' and boys' anger and aggression may be related to the messages that they receive from their parents concerning the appropriateness of such displays (Zahn-Waxler, 1993). Alternatively, parents may simply be reacting in correspondence with their observations that at an earlier age, their daughters are better able than their sons to regulate their negative emotions and control their behaviour (Weinberg & Tronick, 1997). Given the close association between anger and aggression, and to a lesser extent, self-assertion, parents' responses to these expressions are considered. Evidence that parents have an influence on their children's expression of anger and aggression through their own emotion expression, the general emotional climate in the home, and their behavioural reactions to their children's negative emotions and behaviour, is reviewed in the following sections. Next, parents' potential role in the sex differences found in children's expression of anger and aggression is examined.

Parents' Indirect Influence on Children's Emotion Expression and Related Behaviour. Socialization of emotion can occur indirectly, in what Zahn-Waxler & Robinson (1995) call the "broader affective climate", through parents' modeling of their own emotion expression, and through their evaluation of the emotional reactions of others, such as a spouse, other children, or friends (Eisenberg, Fabes, Carlo, Troyer, Speer, Karbon, & Switzer, 1992; Miller & Sperry, 1987; Zahn-Waxler & Robinson, 1995, p. 159). Similarly, Miller and Sperry (1987) state that parents' beliefs about emotion expression are not only communicated intentionally, but also unintentionally. For example, parents may unintentionally disapprove of a certain emotion expression by ignoring it when it occurs.

These authors also suggest that how parents respond to emotion expression interacts with their own life experiences, beliefs, values, cultural background, and socialization goals (Miller & Sperry, 1987).

The primary emotions appear very early in infants, which suggests that at least a component of emotion expression is innate. However, at a very young age, children's emotional expression is influenced by their parents' affective displays. Infants as young as 8 to 12 months of age will engage in social referencing, which involves using another's emotional display to guide one's own response. When encountering a novel object, event, or person, young infants will typically look toward a parent and then adopt the parent's affective expression (Baldwin, 1995; Mascolo & Fischer, 1995). Studies by Eisenberg and colleagues suggest that parental modeling of emotion and the general emotional climate in the home influence children's emotion expression. Mothers' self-reported sympathy in response to children's expression of emotions, as well as the display of negative subordinate emotions in the home (e.g., sorrow when a pet dies, crying when someone leaves, expressing feelings of hurt) were associated with girls' facial markers of sympathy. Mothers' discussion of their own sad and sympathetic feelings during a sympathy-inducing film were related to boys' self-reported sympathy (Eisenberg et al., 1992). Additionally, Fabes, Eisenberg, & Miller (1990) found that girls were more likely to report feeling greater sympathy, more negative affect, and less happiness in response to a sympathy-inducing film if their mothers reported that sadness was expressed relatively often in the family. Boys in such families showed good perspective-taking skills. Likewise, mothers who engaged in emotion-laden explanations that were delivered with force and conviction had toddlers who were more likely to engage in reparative and prosocial behaviour (Zahn-Waxler, Radke-Yarrow, & King, 1979). In addition, an association was found between the level of intersubjectivity and shared affect that occurred between parents and their children while they co-constructed affect and conflict narratives and the frequency and quality of children's independent use of prosocial themes in their own narratives (Oppenheim, Emde, Wamboldt, & Winfrey, 1995).

The display of certain types of parental emotion is associated with negative child outcomes. Angry conflict between adults, as well as mothers' expression of negative

dominant emotions (e.g., anger, threatening, criticizing, blaming), have been associated with children's personal distress, unempathic responses to others' distress, peer aggression, and externalizing behaviour problems (Crockenberg, 1985; Cummings et al., 1985; El-Sheikh & Cheskes, 1995; Eisenberg et al., 1992; Katz & Gottman, 1993). Jenkins (1995) found that high levels of inter-parental anger was associated with children showing a higher proportion of anger expressions in comparison to other emotions across situations. Additionally, mothers' personal distress was related to markers of the same behaviour in their daughters (Eisenberg et al., 1992), and children of depressed mothers often show irregular socioemotional development. For example, toddlers have been found to engage in over-regulated and over-controlled polite behaviour patterns, but also less prosocial behaviour with their peers (Denham, Zahn-Waxler, Cummings, & Iannotti, 1991; Zahn-Waxler et al., 1991). Empathic overinvolvement and excessive guilt have also been found to be characteristic of young children of depressed mothers and suggested mechanisms include children's frequent exposure to their depressed mothers' modeling of negative emotions, negative attributional style, and tendency to engage in guilt induction (Zahn-Waxler et al., 1991). Girls may be particularly at risk, as they are more likely to identify with, and be encouraged to remain emotionally close to their mothers (Chodorow, 1978; Zahn-Waxler et al., 1991).

Parents' Direct Influence on Children's Understanding and Discussion of Emotions. In general, there is empirical evidence that parents' reactions to their children's displays of emotion, parents' discussion of their children's emotions, and the emphasis that parents place on considering the emotions of others is related to children's understanding of emotions, as well as the quality and quantity of their children's emotion expression and emotion-related behaviour (Barrett, 1995; Fivush, 1989; Miller & Sperry, 1987). From an early age, children converse with their parents about their emotions (Bretherton, Fritz, Zahn-Waxler, & Ridgeway, 1986; Fivush, 1989; 1991). Dunn and her colleagues found that the extent to which mothers discussed feelings with their young children was related to how often children referred to feelings in their own communication (Dunn et al, 1987), as well as children's performance on an affective perspective-taking task (Dunn et al., 1991). Oppenheim and colleagues argue that children's ability to talk about emotional issues

emerges in the context of parent-child conversations on this topic. Such conversations are also said to "provide important opportunities to introduce values and preferences regarding emotional experience and expression" (Oppenheim & Waters, 1995, p. 208). Although parents' contribution is initially greater, serving to structure the children's emotion narratives, fill in gaps that arise, and tailor the input to the children's level, overall learning is argued to emerge from the joint contribution of both child and parent (Oppenheim et al., 1995; Oppenheim & Waters, 1995). Similarly, "affect management skills" are said to be acquired by children during parent-child interaction, and these skills can then be used by children during peer interaction (Parke et al., 1992, p. 118). Similarly, Stein and Levine (1989) state that through the attainment of increased social knowledge, children become aware of the culturally specific circumstances in which it is appropriate to feel and express certain emotions, and what consequences can be expected from such expressions. For example, Martin and Ross (1996) found that parents and their young children share the belief that the expression of intentional aggression is considered to be less acceptable than the expression of unintentional aggression. It is likely, however, that parents give mixed socialization messages depending on the emotion being expressed, and the particular situation. For example, on one hand, it is common to hear children being told to "say what you feel", particularly when they are sad, but on the other hand, children are also often encouraged to hold their feelings in, particularly when they are angry in a social situation.

How do Parents Respond to Their Children's Aggression?

Parents state that they would not ignore their children's aggression, they would react with concern, anger, and disappointment, and they would intervene using moderate or high power assertion (Grusec & Kuczynski, 1980; Mills & Rubin, 1990). Mothers' reactions also depend on the children's age. Mothers report that they would be more upset with 4- to 6-year-old children's aggression because it is believed to be more dispositional and intentional than younger children's aggression which may simply be attributed to a passing developmental stage (Mills & Rubin, 1990). Grusec and Kuczynski (1980) found that parents were most likely to respond to physical aggression with verbal or physical power assertion, power assertion that involved forced performance of appropriate behaviour, or

forced isolation. Zahn-Waxler and Chapman (1982) found that parents reported that children's harm to other people necessitated firm control. These investigators had parents record their responses to their 1- to 2-year-old children's transgressions and, as opposed to using power assertion, parents reported that following their children's physical aggression they were more likely to use inductive techniques that emphasized to their children the consequences that the children's hurtful actions had on others (e.g., explanations and dramatizations). In an observational study, Kendrick and Dunn (1983) found that mothers were more likely to intervene in their children's physical quarrels than when conflicts were verbal in nature. In addition, they intervened in relatively fewer physical quarrels when their younger children were 14-months as opposed to 8-months of age. At the first time period the median age of the older children was 33 months. Smetana (1989) compared mothers' responses to moral transgressions (physical aggression and object disputes) and social conventional transgressions (e.g., not sitting while eating, making a mess, screaming indoors). Following social conventional transgressions, mothers responded with predominately undifferentiated simple commands. Although mothers did issue simple commands following moral transgressions, in comparison to social conventional transgressions, they were more likely to also respond with requests to take victim's perspective and evaluation of rights. Dunn and Munn (1986) also argue that the context of child hitting is one in which mothers are likely to discuss rules, feelings, and strategies of conciliation. It can be concluded from these studies that parents view physical aggression as a serious transgression. They believe that it warrants firm control, and are also willing to make a considerable effort to explain how it is a hurtful and inappropriate behaviour.

Characteristics of Parents of Aggressive Children. There is considerable empirical evidence that certain parenting practices are associated with children's regular display of physical aggression. There is a positive association between the aggressiveness of parents and their children. Parents of aggressive children have been found to use harsh, physical punishment with their children, and marital conflict is also common. Inconsistency in use of discipline practices is also characteristic of parents of aggressive children. They have been found to be very permissive in supervising their aggressive children, but also to be intrusive and highly directive. Parents of aggressive children also show inconsistent

behaviour through their tendency to engage in differential treatment of their children (Coie
& Dodge, 1997; Eron, Huesmann, & Zelli, 1991; Loeber & Hay, 1997; Parke & Slaby, 1983;
Rubin et al., 1995; Serbin et al., 1991). According to Patterson and his colleagues, parents
are seen as directly training their children to engage in antisocial behaviour through their
own inappropriate reinforcement of this behaviour. Some parental reinforcements are
positive (e.g., attend, laugh, approve), but more frequently they are aversive (e.g., ineffectual
nagging, empty threats, nattering). It is argued that children engage in their own coercive
behaviour in order to terminate their parents' aversive interventions which then reinforces
the children's actions, resulting in a coercive cycle that is repeated over and over again
(Patterson, 1982; Patterson, DeBaryshe, & Ramsey, 1989). It is noteworthy that studies have
focussed predominately on parents of white, male aggressive children. However, it is
important to consider other gender, ethnic and cultural groups (Coie & Dodge, 1997). For
example, physically harsh discipline was found to be predictive of later aggressive behaviour
in European-American, but not African-American children (Deater-Deckard, Dodge, Bates,
& Pettit, 1996). Pertinent to the present study is the additional fact that past research has
predominately examined characteristics of parents of generally aggressive children, and have
not focused exclusively on those parents whose children are aggressive with their siblings.

Disadvantages of Discouraging Children's Anger Expression. In general,
emotion expression and talk about emotions serve a positive function within interpersonal
relationships in that these processes enable interactants to have greater understanding of each
others' perspectives, clarify misunderstandings, compare interpretations of shared
experiences, and make appropriate responses (Bretherton et al., 1986; Dunn et al., 1987).
Parents' emotional expressiveness appears to be beneficial for children; greater parental
expressiveness was found to be associated with children's social competence with peers, and
fathers' expressiveness was related to less child aggression (Parke et al., 1992).

Emotion expression may also be important for individual well-being. For example,
self-assertion, a relatively adaptive and constructive form of anger expression, has been
linked with various positive psychological outcomes, including autonomy development and
social competence (Crockenberg & Litman, 1990; Denham et al., 1991). Similarly, Roberts
and Strayer (1987) concluded that the results of their study gave evidence that parental

discouragement or suppression of children's negative affect impaired children's ability to be planful and effective in both social and non-social domains. Oppenheim and Waters (1995) note that Bowlby wrote about the importance of unrestricted parent-child communication of emotion for development of secure attachment, and speculated that the most detrimental communication pattern occurs when children's accurate feelings about painful events are negated or distorted (Bowlby, 1988). It is not uncommon to hear parents request their children to keep their feelings of anger, sadness, or pain to themselves, and to praise their children for being "brave" or "nice" in such situations. Maccoby (1977) argued that children use anger and aggression as stepping-stones to more effective and socially acceptable means of self-defense, and prohibiting such expressions may take away the only mode of action children have while their more sophisticated skills are developing. She further argues that the inhibition of children's anger can create feelings of vulnerability and frustration in the children, and it can also serve to cut off communication in families. Family therapists also emphasize the importance of acknowledging angry feelings that arise during family interaction in order to sustain open communication and intimacy between family members (Bach & Wyden, 1968; Maccoby, 1977; Rothenberg, 1971).

As discussed above, if anger expression is consistently discouraged, this may result in sadness and play a role in internalizing behaviour problems (Zahn-Waxler, 1993). Buck (1984) discussed evidence for the possible relationship between emotional suppression and stress, physiological arousal, and illness. Similarly, Rothenberg (1971) argued that anger can function as a defense against anxiety. Eisenberg, Fabes, Schaller, Carlo, & Miller (1991) found that parents who emphasized that their children must control their expression of non-hurtful emotions (e.g., sadness, anxiety) seemed to foster self-focused, internalized anxiety and distress reactions when children witnessed another's distress. This relationship was found to be particularly strong for boys. Eisenberg and her colleagues suggest that such restrictive parental socialization elicits anxiety because young children do not yet have adequate emotion self-regulation and cognitive skills to strictly control their emotion expression (Eisenberg et al., 1992).

Benefits of "Emotion Coaching". Oppenheim and Waters (1995) argue that when parents' fail to acknowledge their children's feelings, particularly concerning negative

emotions, children are left without the benefit of "emotional scaffolding" to help them cope with, understand, and communicate these aversive feelings (p. 208). Denham, Mason, & Couchoud (1995) studied the influence of adult emotion scaffolding on preschool children's prosocial responses to adult distress. Overall, prosocial responses were frequent, however, such reactions were increased when children were provided with a label for the emotion that was being expressed by the distressed adult. This result suggests that children benefited from being given information that calls attention to the existence of a negative emotion, and that clarifies its nature (Denham et al., 1995). Likewise, Cole and Zahn-Waxler (1992), describe "proactive parenting" as involving both positive attempts at control (e.g., promoting compliance without sacrificing child autonomy) as well as emotional availability between parent and child. Emotional availability includes understanding children's emotional states and educating and encouraging internal control in the child (p. 193). Hooven, Gottman, & Katz (1995) interviewed parents to assess their "meta-emotion structure", or their feelings about their own emotions, as well as their attitudes and responses to their children's anger and sadness. Parents who were labeled as "emotion-coaching" were aware and accepting of their own sadness, and accepted and assisted with their children's anger. Non-emotion-coaching parents tended to be responsive and caring, however, they appeared to have little awareness of how to make emotional connection with their children, or coach their children when they were angry or sad. Instead, these parents used strategies such as distraction in the face of their children's emotions (e.g., asking a sad child if they wanted to watch a movie). Emotion-coaching parents had children who displayed fewer behaviour problems, less physiological stress, fewer negative peer interactions, greater ability to focus attention, higher academic achievement, and were physically healthier than children whose parents did not show emotion-coaching characteristics. The authors state that in emotion-coaching families, emotions enrich interpersonal interaction because they are appreciated and considered to be useful. This environment gives children the opportunity to practice sharing their negative emotions with willing participants, and, over-time, to gain knowledge about how to appropriately express such emotions (Hooven et al., 1995).

It seems warranted, however, to place some boundaries on children's emotional displays. Indeed, it is unlikely that it would be beneficial to unconditionally condone anger

expression, especially when in the form of physical aggression, given its potential to cause considerable physical pain and suffering for victims as well as its association with maladaptive social outcomes for aggressors. For example, parents' restrictiveness concerning their children's expressions of potentially hurtful emotions (e.g., inappropriate display of anger) was found to relate to their same-sex children's self-reported sympathy (Eisenberg et al., 1992). Also, Roberts and Strayer (1987) found that a moderate degree of parental encouragement of children's expression of negative emotion was associated with children's social competence. In this study it is possible to examine whether parents' responded differently to children's aggression and self-assertion, behaviours which differ in terms of their level of regulation and social acceptance. Although not possible to confirm, it is likely that these behaviours often were associated with feelings of anger, particularly because they occurred during sibling conflict. It can be argued that children would benefit from parents who showed a low tolerance for children's aggression, but more acceptance of children's self-assertion.

Alternative Mechanisms. The above research can be interpreted as giving evidence that parents influence their children's emotion expression and behaviour through their reactions to their children's emotions and behaviour, their own emotion expression, and the general emotional climate created in the home. Through these means, it is argued that parents have the opportunity to teach their children which emotions and behaviours are acceptable, and in what situations they can be expressed (Eisenberg et al., 1992). Research also suggests that children tend to benefit from an environment in which their emotional displays are accepted and that provides coaching in how to appropriately communicate and handle negative emotions. On the other hand, behavioural adjustment problems are associated with overly restrictive parental reactions to children's emotion expression. As well, aggressive children tend to have parents who mirror their children's behaviour, using highly directive, rejecting, and punitive parenting behaviours.

An alternative mechanism should be considered as a possible way to account for the above findings. It is possible that relationships between parents and children may be accounted for by the genetic similarity between them. From this perspective, parents and children express similar emotions and behaviours because they have a shared genetic

predisposition to do so. Zahn-Waxler (1993) notes that twin studies, adoption studies, and other studies of familial transmission of antisocial patterns suggest that genetic influences play a role in the development of children's externalizing problems. Nonetheless, she states that there is considerable complexity involved in this issue, which argues against a unidimensional solution. Also, the genetic argument is more or less convincing depending on the variable to be accounted for, and the characteristics of the population that are being studied. For example, age is likely to be an important factor because parental socialization would presumably have a greater impact on characteristics displayed by young children as opposed to older children, adolescents, or adults who are further, or totally, removed from their parents' influence (Harris, 1995). It is possible that genetic influences play an important role in understanding the development of children's emotion expression and behaviour, and this possibility cannot be eliminated in the proposed study. However, with respect to the etiology of externalizing problems, Zahn-Waxler (1993) states that at this point it would not be appropriate to discount the role of socialization, particularly given the lack of methodologically rigorous studies that employ observational measures of parent-child interaction across different populations. The present study is able to help address this gap in the literature, as it is based on extensive home observations of parents and their children. This type of data also allows for comprehensive documentation of the nature of the relationship between parents and children, which is an important task whether or not it is ultimately found to be a key factor in explaining children's emotional and behavioural development. The particular variables that are the focus of the proposed study follow from socialization theory; specifically, how parents respond to children's aggression and self-assertion, and whether such socialization messages are related to concurrent and future variations in these behaviours.

Differential Socialization of Girls' and Boys' Anger and Aggression

It would be challenging for parents not to differentiate between their daughters and sons when responding to anger and aggression, or when encouraging empathic, caring, and relationship-oriented behaviour. This is so because of traditional societal sex role stereotypes which view the "ideal" male as strong, independent, stoic, aggressive, active,

rational, individualistic, instrumental, agentic, exploitive and competitive, whereas the "ideal" female is passive, relationship-oriented, nurturing, dependent, soft, emotional, expressive, values commitment and connection, and seeks self-validation through others (Ruble et al., 1993; Zahn-Waxler, 1993). There is experimental evidence for the presence of these sex-role stereotypes. Adults who rated an infant's ambiguous, negative emotional reaction to a jack-in-the-box were more likely to chose anger when they thought the infant was male, and fear for female infants (Condrey & Condrey, 1976). It is striking how early such beliefs are in place: Leinbach & Hort (1995) found that when 3-year-old children were asked to assign gender to pictures of animal faces, they were more likely to assign female gender to a happy animal face and male gender to an angry animal face. Similarly, Birnbaum and Croll (1984) reported that preschool-aged children were found to hold the belief that males are prone to feelings of anger, whereas feelings of happiness, sadness, and fear are more characteristic of females. Block (1983) argues that differential socialization leads to gender-stereotypic developmental outcomes in personality and social characteristics for females and males. Taking this argument a step further, Zahn-Waxler (1993) states that the symptoms of externalizing and internalizing behaviour disorders in psychiatric diagnostic manuals represent exaggerations of qualities associated with these sex-role stereotypes. She further argues that parental socialization which conforms to such stereotypes may be a contributing factor to the differential prevalence of externalizing and internalizing behaviour problems in males and females.

There is evidence that boys' aggression is perceived to be more normative than girls' aggression (Condrey & Ross, 1985). Films were taken of 2 preschoolers whose sex was disguised by snow-suits, and although all dyads displayed the same level of physical aggression, boy-boy labelled dyads were judged by observers as showing less aggression than any of the other three sex-pairings. In their review, Zahn-Waxler and colleagues conclude that already when their children are very young, parents seem to have more tolerance for their sons' displays of anger than for similar behaviour in their daughters (Zahn-Waxler et al., 1991). Anger expressions in female infants have been found to be more likely to be followed by negative maternal responses (e.g., frowning, anger) whereas male infants received more empathic responses (Malatesta & Haviland, 1982). Fivush (1989)

examined conversations about past events between mothers and their 2- to 3-year-old children. Mothers only discussed anger with their sons, and also tended not to attribute negative emotions to their daughters. Moreover, in a similar follow-up study, conversations about anger were longer with sons than with daughters, and mothers only accepted anger and retaliation as appropriate responses from their sons and not their daughters. With daughters, mothers spent more time talking about sadness (Fivush, 1991). From these conversations, Fivush suggested that girls might be learning that anger is not an appropriate emotional response (Fivush, 1989; 1991). Parents report that they would be more accepting of anger and aggression in boys than in girls (Birnbaum & Croll, 1984; Mills & Rubin, 1990), and boys are permitted to express more anger than girls (Brody, 1985; Lewis & Michalson, 1983). The greater acceptance of aggression in boys occurs at an early age. Power and Parke (1986) observed 11-, 14-, and 17-month-old infants in their homes and found that parents were more likely to discourage aggression in their girls than their boys. Not only do parents seem to be accepting of boys' anger and aggression, but they also actively encourage behaviour and activities that may promote aggression more often with boys than girls. Intense play that often precedes aggression is encouraged more in boys than in girls (e.g., rough and tumble play), more priority is placed on boys' than girls' achievement and competitiveness, and boys are more likely to be given toys that promote aggressive activities than are girls (Block, 1983; 1984; Huston, 1983; Maccoby & Jacklin, 1974; Parke & Slaby, 1983). In general, parents are more likely to use physical punishment with boys than girls, thus boys also experience more parental modelling of aggression (Lytton & Romney, 1991). However, it is noteworthy that in their meta-analysis, Lytton and Romney (1991) found only a trend for girls' aggression to be prohibited more than boys' aggression. Also, family characteristics (e.g., socio-economic status, culture) can play an important role in attitudes toward the expression of anger. Miller and Sperry (1987) studied three mother-daughter pairs who were from an urban, working-class community in the United States in which anger, aggression, and violence are commonly experienced. They found that these mothers approved of their daughters' expression of anger, as long as it was for self-defence and not self-indulgence.

There is evidence that parents also respond differently to milder, more regulated behavioural forms of girls' and boys' anger expression (e.g., self-assertion). Kerig, Cowan, & Cowan (1993) found that mothers and fathers of 3½-year-old children over-rode and negated daughters more than sons, particularly when daughters attempted to assert themselves. This result with young girls and boys parallels other research that has shown that in general, females are more often interrupted and over-ridden when speaking than are males (Bronstein, 1988; Gleason & Grief, 1983; Kerig et al., 1993). Kerig et al. (1993) also found that overall, boys were more likely than girls to be praised for assertiveness, and fathers in particular were more likely to reward girls for positive, compliant behaviour whereas they rewarded boys for assertiveness. Similarly, there is evidence that shy behaviour in girls is met with parental warmth and affection, whereas parents disapprove of this behaviour in boys (Hinde & Stevenson-Hinde, 1987; Radke-Yarrow, Richters, & Wilson, 1988).

Related to parents' tendency to discourage girls' self-assertion, are studies which give evidence that mothers are less likely to acknowledge and take action regarding their daughters' than their sons' feelings and behaviours. In terms of children's affective state, mother-son dyads are more likely to be in interactive coherence than mother-daughter dyads (Tronick & Cohn, 1989). This is a significant finding, given that infants as young as 2-months of age are said to be aware of, and upset about, occasions when adults' behaviour is not contingent on their own actions (Tomasello, 1992). Similarly, children of mothers who either ignored children's expressions of pain or sadness, or responded to children's anger with mock surprise were more likely to show negative emotion during later separation-reunion episodes with their mothers (Malatesta, Culver, Tesman, Rich, & Beth, 1989). In terms of child behaviour, mothers who were considered to be more sensitive allowed their sons to take the lead in initiating and elaborating joint play in a semi-structured situation, whereas more sensitive mothers of girls took the leading role themselves (Biringen, Robinson, & Emde, 1994). The investigators conclude that mother-daughter interactions appear to contradict traditional notions of sensitivity (e.g., responsivity, flexibility, warmth). Also, this situation in which mothers step in for their daughters deprives girls of an opportunity to act independently and autonomously. Mothers have also been found to be

more likely to disregard their daughters' than their sons' expressed desires: In an observational study that focused on property disputes between 2-year-old children, mothers made their daughters relinquish toys to their peers more often than they made their sons give up desired toys (Ross, Tesla, Kenyon, & Lollis, 1990). Finally, in a review of parenting practices, Maccoby and Jacklin (1974) reported that parents more consistently paid attention to boys' behaviours and misbehaviours with either praise or criticism, but girls' behaviours were more likely to be ignored. In summary, these studies show that for girls more than boys their self-assertions are negated and over-ridden, their parents are less in tune with their affective states, assertions are made for them, and their desires and behaviour are more likely to be ignored. Such feedback is likely to discourage girls from asserting themselves, and may send girls the message that how they feel and what they do is not important. Aggression and self-assertion may be more functional for boys than for girls in terms of its ability to motivate parents to acknowledge and take action on their children's stated position and help them to attain their goals.

Encouragement of Caring, Relationship-oriented Behaviour. Parents' interventions not only discourage girls' immediate aggressive behaviour but also emphasize an orientation that would presumably make future aggressive acts less likely. Specifically, some studies have found that induction (noting the consequences of misbehaviour for others), explanations, and person-oriented appeals are used more with girls, whereas power assertive methods (e.g., commands, physical punishment) are more frequently implemented following boys' transgressions (Lytton & Romney, 1991; Smetana, 1989). More specifically, Smetana (1989) found that other-oriented reasoning, which focused on the intrinsic consequences of the act for others, was used more often following the moral transgressions of 2-year-old girls during peer interaction, and social control (e.g., commands) more often followed boys' aggression. Zahn-Waxler and colleagues (1991) note that psychologically-oriented responses, more than power assertive methods, act to increase children's sensitivity to others, which would presumably have the effect of discouraging future aggression. For example, induction has been associated with guilt in older children (Hoffman, 1970). Additionally, socializing girls to be sensitive to their own and others' emotions is not limited to post-transgression situations. Mothers were much more likely to

initiate discussions about feelings to their 18-month-old daughters than to their sons (Dunn et al, 1987), 2-year-old girls are exposed to a greater range of maternal facial emotions and social smiling than are sons (Malatesta et al., 1989), parents used a greater number and variety of emotion words with daughters than with sons when discussing a past shared event (Kuebli & Fivush, 1992), and parents recommended providing emotional support to help girls regulate worrisome thoughts whereas behavioural avoidance was recommended for boys (Williams, Vasey, & Daleiden, 1995). Malatesta and colleagues stated that their finding that young girls were exposed to a greater range of emotions than were boys "may be a part of a continuing program of gender-differentiated tuition in the use of affective expressions" (Malatesta et al., 1989, p. 51).

Girls are expected to be kind and sensitive (Zahn-Waxler et al., 1992), engage in nurturant, care-giving behaviour (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983), and are judged more harshly than boys for failure to respond empathically to a needy other (Barnett, McMinimy, Flouer, & Masbad, 1987). Fivush (1991) found mothers more often encouraged their daughters to resolve their anger by re-establishing the damaged relationship, whereas retaliation was seen as an appropriate response when their sons were angry. Additionally, mothers were more likely to emphasize the social interactional aspects of emotional experiences with girls, whereas with boys emotions were more likely to be attributed to individual or situational causes. In a study of 5-, 9-, and 13-year-old children, Roberts and Strayer (1996) found that empathy and prosocial behaviour were strongly related in boys, but only weakly associated for girls. The authors suggest that this difference might be explained by the fact that "social norms require girls to be prosocial whether they feel empathic or not", whereas for boys there is less pressure on them to behave prosocially, thus empathy might play a more important role (p. 467). In an observational study, Power and Parke (1986) found that parents were more likely to discourage aggression and encourage prosocial behaviour in their 11-, 14-, and 17-month-old daughters than their same-aged sons. The authors conclude that these results suggest that "even at this early age, parents grant more independence to and are more tolerant of aggression in their boys, and expect polite and considerate behaviour from their girls" (p. 340). An additional factor that may intensify any potential socialization message is parental modeling. Children are likely to identify more

strongly with a same-sex model, and it is mothers who are more likely to engage in care-taking and relationship-oriented behaviour (Chodorow, 1978; Eisenberg et al., 1992; Glen, 1995). Mothers also tend to be more emotionally expressive. For example, when parents were asked to tell stories to their pre-school-age children about an occasion when they were disappointed, mothers were more likely to include an emotional frame than fathers (Chance, 1995). Fathers, more than mothers, also indicate that they are more controlling of children's emotional expression (Hayden & Carter, 1995).

Interpersonal sensitivity is typically considered to be a positive characteristic; however, an over-emphasis on this orientation might lead girls to place the needs of others ahead of their own, and to be susceptible to experiencing excessive guilt. Girls may be reluctant to express their anger and aggression, even in constructive ways, due to a fear of hurting or displeasing others, and threatening their interpersonal relationships (Maccoby, 1986; Zahn-Waxler et al., 1991). Indeed, excessive guilt is a characteristic symptom of depression (Baumeister et al, 1994; Zahn-Waxler et al., 1991; Zahn-Waxler & Robinson, 1995), and from adolescence onward, females are 2 to 3 times more likely than males to have an affective disorder (Nolen-Hoeksema, 1987). Additionally, responses to depressed mood differ between the sexes and are linked to different outcomes: Males tend to engage in activities that provide distraction, whereas females tend to be less active and to ruminate about the causes of their mood state (Nolen-Hoeksema, 1987). Ruminative response styles have been associated with longer and more intense depressive episodes (Nolen-Hoeksema, 1987). It can be argued that these sex differentiated response styles in the face of depressed mood are congruent with how parents socialize girls more than boys to contain their negative behaviour and emotions, and to be concerned about how their behaviour impacts on others.

Alternative Mechanisms. The above review gives evidence that parental socialization is related to sex differences in children's expression of anger, aggression, empathy, and guilt. However, it is important to consider alternative explanatory mechanisms. Children may be predisposed to engage in differing levels of emotion expression and aggressive behaviour due to their biological sex, and characteristics that are associated with being female or male. For example, Zahn-Waxler (1993) lists biological variables that have been implicated in males' and females' differing levels of aggression and

they include hormonal and biochemical variations, frontal lobe function, autonomic arousal, physical strength, and muscle mass. Zahn-Waxler states that such dimensions, in general, have been found to distinguish males and females, but antisocial males also differ from relatively unaggressive males along the same dimensions. If parents distinguish between their daughters and sons due to their children's different biological make-up, this process may account for the relationships reported in the above literature review between parent behaviour and children's sex-related differences in emotion expression and behaviour. It is possible that sex differences exist as a result of biological factors and parental treatment differences result from, but do not determine, sex differences in children's behaviour. It is difficult to evaluate this possibility; however, there is evidence that the role of socialization should not be ignored.

In their review on the development of aggression, Loeber and Hay (1997) concluded that few sex differences in precursors to physical aggression and physical aggression are found in infants and toddler-age children. Rather, sex differences become marked between 3 and 6 years, which is a time when children are becoming involved in organized peer-groups such as day-care or school (Loeber & Hay, 1997). Likewise, it has been noted that at the time when children begin to be held accountable for their behaviour, sex differences begin to emerge (Zahn-Waxler et al., 1991). It is also noteworthy that sex differences in aggression appear before there are significant differences between girls and boys in their overall size and strength (Zahn-Waxler & Cole, 1995). Such arguments point towards the importance of socialization and environmental factors in children's aggressive behaviour. However, they do not rule out the possibility that biological factors might be able to account for sex differences in children's hostile physical behaviour.

A popular position taken by investigators is that children's biological make-up exerts an influence through its interaction with other risk factors, rather than being the sole explanation for variations in children's aggressive behaviour. In their recent review of aggression and anti-social behaviour, Coie and Dodge (1997) conclude that anti-social behaviour emerges as a result of a " series of interaction sequences between individuals and their environments that either strengthen and diversify antisocial tendencies or move individuals off this pathway into less deviant ways of behaving" (p. 74). For example,

neuropsychological deficits may be present that lead to language delays, and less verbal children are more likely to choose physical strategies than verbally skilled children when in a conflict situation (Moffit & Lynam, 1994). If these children interact in family or school environments which fail to acknowledge and provide support for their communication difficulties, it is likely that aggressive behaviour would be promoted. Likewise, Rubin and colleagues argued that externalizing behaviour problems are likely the product of joint interactions between a number of factors that include child temperament, parent-child attachment, parenting variables and family stress (Rubin et al., 1995). Furthermore, these authors suggested that "skilled parenting, under conditions of limited stress and optimal support, can buffer the effects of potentially negative biology" (p. 276). Zahn-Waxler (1993) also notes that the interaction between biological and socialization influences is often found to be the best predictor of delinquent children's later violent crime. Additionally, she argues that studies which show that positive parent-child relationships and responsive parenting can act as protective factors in decreasing the likelihood of behaviour problems in at-risk, emotionally vulnerable children, give evidence for the interaction of biological and socialization influences. Finally, Belsky, Steinberg, & Draper (1991) emphasized the importance of considering both social factors and evolutionary predispositions in understanding externalizing and internalizing behaviour problems in females and males. The major domains of their path-oriented theory include family context, child-rearing practices, psychological/behavioural development, somatic development, and reproductive strategy. In this theory it is argued that girls and boys are predisposed to express different behaviour problems because unique biological processes must be energized in order to influence the biological maturation of both sexes.

From the above review it is clear that children's biological make-up, the environmental context in which children live, and parental socialization are all important factors in understanding how aggressively and assertively girls and boys behave. Of these factors, it is socialization that is the focus of the present study. Parent-child interactions during sibling conflict are investigated in order to determine whether parents respond differently to the aggressive and assertive behaviour of their daughters and sons, and whether parents' reactions are related to variations in girls' and boys' expression of these behaviours.

Summary. From an early age, girls have been found to be less likely to express their angry feelings and show less overt aggression than boys (Cairns & Cairns, 1994; Cohn, 1991; Crick, 1997; Crick & Grotpeter, 1995; Maccoby & Jacklin, 1974; Parke & Slaby, 1983), and when girls do engage in aggression, they are more likely than boys to feel guilty (Perry et al., 1986; 1989). Girls are also more likely to show empathic, relationship-oriented behaviour than boys (Zahn-Waxler et al., 1991; Zahn-Waxler & Robinson, 1995). It is important to investigate processes during childhood that might contribute to these sex differences, and from the above review, parental socialization is arguably an important factor. Indeed, girls' anger and aggression is more likely to be discouraged than that of boys (Brody, 1985; Lytton & Romney, 1990; Power & Parke, 1986), their self-assertions ignored (Kerig et al., 1993) and conversely empathic, relationship-oriented behaviour is more encouraged in girls than in boys (Zahn-Waxler et al., 1991). Aggression can have maladaptive developmental outcomes for children. For example, aggressive children tend to have poor school performance and peer relationships in comparison to their relatively non-aggressive peers (Cairns & Cairns, 1994; Farrington, 1991; Offord et al., 1991; Serbin et al., 1991). Thus, excessive parental leniency regarding children's aggression is not likely to be beneficial. On the other hand, self-assertion is a relatively regulated, and socially appropriate behaviour and there does not appear to be clear benefits to discouraging its expression. Self-assertion is argued to have positive effects for individuals, promoting feelings of satisfaction, agency, and autonomy (Crockenberg & Litman, 1990). Abrupt curtailment of children's anger expression when it takes a behavioural form also robs children of a context in which to understand and learn how to appropriately express negative emotions. In addition, Stein and her colleagues argue that anger is experienced when a goal is blocked and it is believed that there is action that can be taken to attain the goal, whereas sadness is felt when it is believed that there is nothing that can be done to change the situation (Stein & Levine, 1989;1990; Stein et al., 1993). Following from this position, if anger expression in response to a blocked goal is routinely discouraged (e.g., aggression, self-assertion), sadness may replace anger due to the feeling that there is nothing that can be done to rectify unpleasant, or frustrating situations. Furthermore, any positive benefits that

girls attain from aggression and self-assertion may be minimized or entirely eliminated if it routinely arouses feelings of guilt. If parents discourage girls' aggression and self-assertion, and socialize girls to feel guilty when they do express their anger in a behavioural form, they might protect girls from developing externalizing behaviour problems. However, it is argued that this process may be harmful for girls' self-development, and could play a role in the sex difference that girls are more likely than boys to suffer from internalizing behaviour problems (Ruble et al., 1993; Zahn-Waxler, 1993; Zahn-Waxler et al., 1991).

Goals of this Study

The present study has the following primary purposes; to investigate sex differences in children's aggression and self-assertion during sibling conflict, examine whether parents' responses differ depending on the sex of the child who engages in these behaviours, and investigate relationships between parents' reactions and variations in levels of girls' and boys' aggression and self-assertion. The above literature review provides evidence for boys' more frequent expression of anger and aggression than girls', and parents' greater tolerance of these expressions in their sons than in their daughters. This study provides an important contribution to the literature because there is little research that has focussed on aggression between siblings, and particularly extensive home observations of sibling aggression. Rather, aggression between peers tends to be the focus of research. There are important differences in studying sex differences in sibling aggression rather than sex differences in aggression between peers. When studying siblings, the focus is on the aggression that occurs in one special relationship as opposed to studying children who are generally aggressive within their peer group. In some respects this situation is similar to aggression between best friends, however, one important exception is that best friends can be lost if they dislike how they are treated, whereas this is not the case with siblings. Also, with sibling aggression there is always an age asymmetry, whereas same-aged peers are typically the focus of aggression research. In terms of parents' responses to sibling versus peer aggression, a unique feature of sibling aggression is that parents' are reacting to aggression against one of their own children. Finally, given that related samples are studied in sibling aggression, a more powerful statistical test is available.

Another goal of this study is to draw links between sex differences in children's aggression and assertion and parents' responses to these behaviours in their daughters and sons, a task that has rarely been under-taken in other studies of children's aggression. Also, studies based on parent reported aggression are more common than observational studies, and not only is the present study based on observational data, but it is also longitudinal. Thus, parents' responses to their girls' and boys' aggression and self-assertion can be examined over time during an age period in which changes in girls' and boys' aggression are common (e.g., 2 to 6 years of age). This study is unique because sex differences in, and parents' responses to, more regulated and socially appropriate behavioural forms of children's anger expression (e.g., self-assertion) are compared to less regulated and less socially appropriate forms (e.g., aggression). Whereas most studies on children's aggression have focused on only physical aggression, this study examines both verbal and physical forms of aggression and self-assertion. Finally, there is a paucity of research that examines girls' aggressive behaviour, and in this study both girls' and boys' aggression and self-assertion are examined.

METHOD

Subjects

At the beginning of the study, subjects were forty Caucasian families consisting of a mother, father and two children. Families were recruited based on birth announcements in the local newspaper. In an initial interview, the overall goals of the study were described: Parents were told that we were interested in the relationship between their two children, as well as in how children learn family rules and parents' expectations for interpersonal behaviour. Specific mention of children's aggression and self-assertion, or of parents' reactions to their children's aggression and assertion was not made, although it was clear that parent behaviour was also recorded. The children were only told that observers were coming into their home and would watch how they played together. They were asked not to interact with the observer (e.g., pretend that she was not there).

Families were observed at two different time periods, separated by approximately two years. The older children were between 3.6 and 4.9 years of age (M = 4.4) at Time 1 and between 5.4 and 7.0 years of age (M = 6.3) at Time 2; the younger children between 1.9 and 2.6 years of age (M = 2.4) at Time 1, and between 3.8 and 4.8 years of age (M = 4.4) at Time 2. The sex of the older and younger children was balanced such that there was an equal number of all possible sister/brother combinations at Time 1. One family was not observed at Time 2 because they had moved away, and a number of changes occurred in the other families. Notably, there was a third sibling in ten of the families, and in four families the parents were in the process of separating or had divorced. Parents' ages at the beginning of the study ranged between 23 and 48 years (M = 30.8 for mothers; M = 32.6 for fathers). Twenty-nine percent of the parents had completed a university degree, 15% had completed a college program, 41% had completed only high school, and 15% had not graduated from high school.

Procedure

Behavioural Observations. The behavioural data came from six 90-minute observational sessions in the families' homes at each time period. During three of the sessions the whole family was present (Family Sessions) and in the remaining three, the

mother and children were observed without the father (Mother Sessions). These two situations were chosen because it was felt that they represented the most common constellations in these families. For the purpose of the present study, however, Family and Mother sessions were collapsed and analyzed as a unit. Occasionally it was necessary to shorten an observation session and in these situations the observations were completed at a later time. In the two families in which the parents had divorced by Time 2, six sessions of interaction with the mother were recorded; in the two families undergoing separation, some sessions were recorded with the father. Additionally, there were up to three sessions missing in three other families and their data was pro-rated to be equivalent to nine hours. For those families with a third child, the behaviour of, and directed to, these children was not included in the present study.

In order to maintain stability and rapport, only two observers were assigned to each family at each time period. To minimize the intrusiveness of the situation, only one observer was present during each session. Observers recorded the families' verbal interactions onto one track of a stereo tape-recorder while at the same time filling in the details of the families' actions on the other track. They did not initiate conversations with family members or direct their activities, but did briefly respond to comments that were addressed to them and moved their position when appropriate in order to create as natural a situation as possible. For observations to proceed, only the family members were present in the house, children were in the same room, and parents were either in the same room as their children or in an adjacent room. Allowances were made for brief absences of family members. Televisions, video games and other major distractions were not allowed. Whenever these conditions were not met, observers stopped recording and waited until the family members were able to meet the above requirements or they arranged to observe the family at a more convenient time.

Coding of Sibling Conflict. The audiotaped records of the sessions were transcribed using a coding scheme that included all behaviour that the children directed to one another and all parental behaviours that were relevant to the interaction of the children. From this record all instances of sibling conflict were identified for further detailed study. An interactive sequence was coded as a conflict when the actions of at least one child were

met with protest, resistance, or retaliation by the sibling (Hay & Ross, 1982). Sibling conflicts arose over a number or issues which included possession, ownership, or sharing of property, interfering with or excluding a sibling, property damage, and nagging, controlling or harming a sibling (Ross, Filyer, Lollis, Perlman, & Martin, 1994).

Coding of Children's Aggression and Self-assertion. Given that sex differences were a main focus of this study, before children's aggression and self-assertion were coded any evidence of the sex of the children was removed from the transcripts (e.g., children's names, sex-specific pronouns). Next, physical and verbal forms of children's aggression and self-assertion that were expressed during sibling conflict were coded. These categories made up the majority of the child behaviours and verbalizations that were expressed during sibling conflict. Positive statements and actions (e.g., hugs, apologies), neutral statements (e.g., "I don't know"), unclear verbalizations, and non-word expressions (e.g., grunts, squeals) were not coded.

Physical Aggression. Physical aggression was defined as an action that resulted in physical contact between the two siblings which appeared to be aversive to the victim and either did, or had the potential to cause physical harm or pain. Physical aggression was further differentiated into severe and mild categories. Severe physical aggression included actions such as hitting, biting, kicking, and throwing hard objects and mild physical aggression included actions such as pushing, pulling, and hitting with soft objects.

Physical Self-assertion. Physical aggression and physical assertion are similar because they are both physical behaviours that are used to attain a desired goal. However, the core features and goals of these behaviours differ in a few ways. In physical aggression the main goal is to do harm to a sibling, and this goal tends to be carried out with an intense, and hostile physical action. With physical assertion the focus is on control or resistance as opposed to harm, and the action is generally less intense and hostile. In comparison to physical aggression, physical assertion also tends to be a more socially acceptable behaviour. In addition, a further difference between physical aggression and physical assertion in the present study was that the latter category included physical behaviours that were object-focussed. Thus, physical self-assertion was defined as a physical action that appeared to be motivated by the desire to control the sibling's behaviour, gain control of a desired object, or

damage a valued object. As with physical aggression, mild and severe categories of physical assertion were distinguished. Mild physical assertion included physical actions that involved minimal or no physical contact with the sibling such as withdrawing a mutually desired object, blocking a sibling from attaining her or his goal (e.g., standing in the middle of a doorway) and passively resisting a sibling (e.g., not letting go of an object when it is pulled). There were three categories of severe physical assertion; grabbing, physical contact, property damage. Grabbing involved all instances in which an object was grabbed out of the hands of the sibling. If the object was not taken out of the sibling's hands, for example, if it was picked up off the floor in front of the sibling, then the behaviour was coded as mild physical assertion. Physical contact included any behaviours that involved physical contact with the sibling but had the goal of controlling or restraining the sibling's actions as opposed to simply harming the sibling (e.g., pulling sibling's arm, or pushing sibling's hand away from a mutually desired object, holding sibling). Property damage included any inappropriate action taken against an object that either harmed, or had the potential to harm that object (e.g., breaking a toy, destroying a lego creation, scribbling on a picture). In comparison to mild physical assertion the severe category appears to share characteristics with physical aggression in terms of its more intense, less socially acceptable, and potentially more harmful nature.

Verbal Aggression. Verbal aggression was defined as a statement made by one sibling which appeared to be aversive to the victim, and either did, or had the potential to cause harm (e.g., hurt the victim's feelings). Verbal aggression included three categories: insulting (e.g., name-calling, swearing at sibling), nagging (e.g., repetitive, irritating statements, teasing), and threatening (e.g., "If you don't stop that, I'm going to wreck your truck").

Verbal Self-assertion. Verbal assertion was defined as any statement made by one sibling that appeared to be motivated by the desire to control or resist the other sibling's actions. Verbal assertion categories included simple commands (e.g., "Stop it", "Don't do that"), reasoning (e.g., "It's mine", "I had it first"), reasoning about feelings (e.g., "That's not nice, you'll make her cry") and indirect assertions. Indirect assertions were a more polite, subtle form of assertion. They typically included suggestions in question form or

specific markers of polite speech such as "please" or an "ok" tag (e.g., Why don't we play cards now?", "Please don't mess that up", "I'm taking this, ok").

Coding of Parents' Responses to Children's Aggression and Self-assertion. Each act of child aggression and self-assertion during sibling conflict was given a corresponding parent response code. Parents could prohibit, condone, ignore, show no response, or give an ambiguous response to their children's aggression and self-assertion. Prohibit responses gave children the message that their behaviour was inappropriate or that the parents disapproved of the action in some way. They could take the form of simple commands (e.g., "stop that") , reasoning (e.g., "that's your sister's toy"), rule statements (e.g., "you are not allowed to hit"), and physical interventions (e.g., grabbing a toy from a child, spanking). Parents condoned their children's aggression and self-assertion through statements that showed agreement or approval of the action (e.g., "ok, you do that", "she deserved that"), and through verbal and physical assistance or coaching (e.g., "Tell your brother that I said it was ok", getting the desired object for the child). Parents were coded as ignoring children's aggression and assertion when they were actively involved in, or clearly supervising the children's activity but they did not respond. On the other hand, no response was coded when parents were present in the same room, or within hearing distance of the children, but they were not involved in the children's activity and they did not respond to the children's aggression or assertion. Finally, ambiguous responses were coded when the message conveyed by the parents' response was difficult to interpret. These responses typically took the form of distraction (e.g., "Would you like a snack now?"), or neutral, brief questioning that was not followed up on by the parents (e.g., "What happened?"). Given that children's aggression and assertion occurred during sibling conflict, two children were always involved. In some cases parents directly addressed only one child, however, as long as both children had engaged in a related aggressive or assertive act during the dispute, then both children received a parent response. For example, if both children were physically aggressive and the parent directly responded to one child's aggression with a prohibition, then the other child's aggression was coded as being condoned.

Each of the parent response categories was reported as a proportion of the frequency of physical aggression, physical assertion, verbal aggression, and verbal assertion used by

each child at each time period. For example, the frequency of parents' prohibit responses following their children's physical aggression at Time 1 was divided by the total frequency of children's physical aggression at Time 1.

Reliability. Reliability was calculated in two phases: First, the reliability of observing was estimated based on 27 additional 20-minute sessions that took place prior to the beginning of the data recording (17 sessions at Time 1 and 10 sessions at Time 2). Two observers recorded and transcribed the behaviour of family members during these sessions. Child actions and parent responses were observed in both records 92% of the time at the first time period, and 86% of the time at the second time period.

Second, the coding of children's aggression and self-assertion and parents' responses to these behaviours was examined in the transcripts of the regular observation sessions. The author and one other coder independently categorized these actions in 32 of the same transcripts. One transcript was taken from 32 of the 40 families, there were 16 transcripts from each time period, and an equal number of transcripts for each possible gender combination of sibling pairs (e.g., 8 with older boy-younger boy, 8 with older girl-younger boy, etc.). When disagreements occurred between the coders concerning the coding of the reliability sessions, they were discussed and a consensus was reached. Kappa for the broad categories of children's aggression and self-assertion (i.e., physical aggression, physical assertion, verbal aggression, verbal assertion, none) was .95. Kappas were .72 for the narrow categories within physical aggression, .94 for the narrow categories within physical assertion, .94 for the narrow categories within verbal aggression, and .86 for the narrow categories within verbal assertion. Finally, Kappa for the parent responses (e.g., prohibit, condone, ambiguous, ignore, no response) was .77.

HYPOTHESES

Parents' Overall Responses to Children's Aggression and Self-assertion

Without considering the sex of the children that they were responding to, parents were generally expected to show the most concern for physical and verbal aggression, and less concern for physical and verbal assertion. Specifically, it was hypothesized that parents would be more likely to prohibit, and less likely to condone, ignore, and show no response to physical and verbal aggression, with the strongest effect expected for physical aggression. On the other hand, parents were expected to be least likely to prohibit and most likely to condone, ignore, and show no response to physical and verbal assertion, with the strongest effect expected for verbal assertion.

In the following section, hypotheses for each form of aggression and self-assertion are outlined. For the analyses of sex differences in children's use of these behaviours, hypotheses are included for both the overall categories (e.g., physical aggression) as well as finer distinctions within them (e.g., mild, severe). However, hypotheses for parents' responses to their children's behaviour are included for only the overall categories of children's aggression and assertion. Analyses were not completed on parents' responses to the narrower categories of children's aggression and assertion because too many families would have been dropped from the analyses due to missing data.

Physical Aggression:

Sex Differences

Boys were expected to engage in more overall physical aggression than girls. Physical aggression was further differentiated into mild and severe categories and boys were also expected to show higher levels of both categories of physical aggression. Over time, girls and boys were expected to become less similar in the frequency that they engaged in physical aggression, due to a more dramatic decline for girls' than boys' aggression over time. In general there are strong relations found between behaviours given and received

among children, and specifically, aggressive behaviour has been found to be reciprocal (Archer et al., 1988; Cairns, 1979; Ross, & Lollis, 1988). Thus, because of a reciprocity effect, boy partners were expected to receive more aggression than girl partners. In other words, children who are more aggressive (e.g., boys) tend to elicit more aggression from their interaction partners.

Sibling Status and Time effects

Given their greater size and power, older children were expected to be more aggressive than their younger siblings, and this difference was expected to be greater at Time 1 than Time 2. This hypothesis addresses the dyadic relationship between the siblings. A separate, independent hypothesis relates to developmental changes over time. Specifically, the overall level of physical aggression was expected to decline from Time 1 to Time 2 because as children get older they begin to make greater use of more sophisticated, as well as more verbal, conflict strategies.

Parents' Responses

Parents were expected to have a lower tolerance for their daughters' than their sons' physical aggression. Thus, parents would be more likely to prohibit their daughters' physical aggression, and this effect was expected to be strongest at Time 2 because as girls get older it is likely that there are stronger expectations for them to conform to sex-role stereotypes (e.g., to be caring, & relationship-oriented vs. strong, independent, aggressive). Likewise, because parents were expected to be more tolerant of boys' aggression, parents were expected to condone, ignore, and show no response to boys' physical aggression more often than girls' physical aggression. Parents were also expected to prohibit physical aggression more when the victim was a girl, whereas when the victim was a boy they were expected to be more likely to condone, ignore, and show no response to physical aggression. In terms of sibling status and time effects, physical aggression was expected to be prohibited more at Time 2 than Time 1, and older children's aggression would be prohibited more than younger children's aggression. Likewise, parents were expected to more often condone, ignore, and not respond to children's physical aggression at Time 1 than at Time 2. Also parents were

expected to condone, ignore, and not respond to younger children's physical aggression more often than to older children's physical aggression. These hypotheses reflect the greater harm that older children's aggression can inflict on their victims.

Physical Assertion:

Sex Differences

As with physical aggression, overall physical assertion was broken down into mild and severe categories. The overall category of physical assertion was predominately made up of mild instances of this behaviour, thus the predictions were the same for mild and overall physical assertion. The overall and mild categories of physical assertion are made up of relatively common, less hostile and intense physical behaviours, thus no sex differences were expected for these forms of physical assertion. On the other hand, boys were expected to use the severe categories of physical assertion more than girls. As with physical aggression, girls and boys were expected to become less similar over time in the frequency that they engaged in severe physical assertion due to a greater decline in girls' use of these behaviours. Boys were expected to engage in more severe physical assertion than girls, and thus due to a reciprocity effect, boy partners were expected to elicit more severe physical assertion from their interaction partners than girls.

Sibling Status and Time effects

The level of all forms of physical assertion was expected to decline from Time 1 to Time 2 as children's conflict strategies became more verbal and less physical. Overall and mild physical assertion were expected to be more common in younger children than their older counterparts, but the reverse was expected for the severe physical assertion categories. Younger and older children were expected to become more similar over time in their use of overall and mild physical assertion. These age differences reflect the belief that although younger children are using predominately physical conflict strategies, they are less likely to use more hostile physical assertion against older, stronger siblings.

Parents' Responses

Parents were not expected to differentiate between their daughters and sons in their prohibit and condone responses to children's physical assertion because overall physical assertion is made up of predominately mild, quite socially appropriate physical behaviours. Thus, parents were not expected to be less tolerant of girls' than boys' physical assertion. However, it was predicted that parents would pay less attention to girls' than boys' physical assertions. Thus, more ignore and no response would follow girls' than boys' assertions. Parents' responses were not expected to be influenced by the sex of the recipient of the physical assertion. Sibling status and time effects were also not expected for physical assertion.

Verbal Aggression:

Sex Differences

It has been argued by several investigators that girls tend to use verbal aggression rather than physical aggression. However, studies have found inconsistent results in terms of whether girls or boys engage in higher rates of direct verbal aggression. On the other hand, girls are consistently found to engage in more relational aggression, which often takes the form of indirect verbal aggression, than boys. Thus, in the present study the hypothesis that girls are more verbally aggressive than boys was tested for the overall category of verbal aggression as well as the narrow categories (e.g., nagging, insulting, threatening). It was also expected that a reciprocity effect would occur in which more verbally aggressive girls would elicit higher levels of verbal aggression from their interaction partners.

Sibling Status and Time effects

The frequency of each category of verbal aggression was expected to increase over time due to children's increasing use of verbal conflict strategies as they grow older. Similarly, older children were predicted to engage in more verbal aggression than younger children.

Parents' Responses

Similar to physical aggression, parents were expected to have a lower tolerance for girls' verbal aggression than boys' verbal aggression and this effect was predicted to be stronger at Time 2 than Time 1. Thus, parents would more often prohibit girls' verbal aggression, whereas they would condone, ignore, and show no response more often to boys' verbal aggression. Similar hypotheses were made when the victim was a girl (more prohibit), and when the victim was a boy (more condone, ignore, no response). Due to higher expectations for older children in terms of their knowledge of socially appropriate language, it was expected that parents would be more likely to prohibit older than younger children's verbal aggression. More prohibit responses to verbal aggression were also expected at Time 2 than at Time 1.

Verbal Assertion:

Sex Differences

No sex differences were expected for overall verbal assertion. However, boys and girls were predicted to show differences in the frequency that they used some of the narrow categories of verbal assertion. Boys were expected to use more simple commands, whereas girls were expected to engage in more reasoning about feelings and indirect assertion. These hypotheses reflected the belief that girls are socialized to be more concerned about the feelings of others, as well as to be more polite and subtle than boys. No sex differences were expected for the overall reasoning category. In terms of the influence of the sex of the child receiving the assertion, girls were expected to receive more reasoning about feelings and indirect assertion, whereas no sex of partner effects were expected for simple commands or the overall reasoning category.

Sibling Status and Time effects

In terms of overall verbal assertion, given children's increasing proficiency in verbal skills as they grow older, more verbal assertion was expected at Time 2 than Time 1, and it was predicted that older children would use more verbal assertion during conflict than their

younger counterparts. However, younger and older children were expected to become more similar over-time. Simple commands were expected to be used equally frequently by older and younger children, but they were expected to become less frequent at Time 2 than Time 1. By 6 years of age it was expected that children would be using more sophisticated verbal strategies. For example, reasoning, reasoning about feelings, and indirect assertion were expected to be used more by older than younger children, to be more frequent at Time 2 than Time 1, and that there would be less difference between older and younger children at Time 2 in their use of these verbal assertion categories.

Parents' Responses

Parents were not expected to differentiate between their daughters and sons in their prohibit and condone responses to children's overall verbal assertion. However, it was predicted that parents would pay less attention to girls' than boys' verbal assertions. Thus, more ignore and no response would follow girls' than boys' verbal assertions. No other effects were expected for parents' responses to verbal assertion.

RESULTS

Rationale for the Analysis

The primary goals of this study were to investigate whether there were sex differences in the quantity of aggression and assertion that occurred during sibling conflict, and whether parents responded differently to such behaviour in their daughters and sons. The main dependent variables were the frequency of different forms of verbal and physical assertion and aggression shown by girls and boys, as well as the proportion of time that parents prohibited, condoned or ignored such behaviours depending on the sex of the child that they were addressing. The data comes from families in which there were two children, and it was collected at two different time periods. Thus, the independent variables of particular interest in this study included the sex of the child (girls, boys), sibling status (older, younger), and time (time 1, time 2), with the first variable a between subjects factor and the latter two variables within subjects factors. A problem arises if a repeated measures analysis of variance (ANOVA) is applied to the design of the present study. In this analysis, the sex of the older sibling and the sex of the younger sibling must be separate factors, which eliminates the possibility of directly testing the effects of the sex of the children overall. Rather, the overall sex of child effect is found only in the form of a complicated interaction effect that is difficult to isolate from other potential interactive effects and thus hard to interpret. In order to address this problem, a statistical procedure was needed that allowed for comparison of all girls and boys in the form of a main effect of sex of child and a separate main effect of sibling status, rather than one that necessitated combining sex of child and sibling status into one factor (e.g., sex of older, sex of younger). A further advantage to the proposed design is the increased number of subjects in each comparison.

Kenny (1988) discussed a related, more general problem, arguing that standard, mainstream statistical methods (e.g., analysis of variance) are unable to accommodate the questions raised in the study of dyadic or two-person relationships. He outlined a number of reasons why standard analytical methods are not well suited to the study of two-person social interaction, a major one being that interpersonal relationships are two-sided. It is typically

impossible to designate one member of a dyad as the stimulus person and the other as the subject. Instead, dyad members play both roles and it is difficult to ascertain who influences whom (Kenny, 1988). In the study of dyadic interaction, there is interdependency between the two interaction partners, and this interdependency must be accounted for in the statistical analyses of the data (Kenny, 1988; Seay & Kay, 1983). It follows that any analytical procedure that assumes independence of observations is inappropriate (Seay & Kay, 1983).

Kenny (1988) outlined a number of recently developed methods that are more responsive to the unique problems raised in the study of social relationships. For example, Kramer and Jacklin's (1979) design provides a way to analyze the interaction between two persons that accounts for the interdependency between them, while still allowing for investigation of the dual role that dyad members play as both subject and stimulus (Kenny, 1988; Seay & Kay, 1983). This task was accomplished by isolating the effects of a subject variable (actor effect), the effects of the subject's partner (partner effect), and the interaction between the two variables (Seay & Kay, 1983). Specifically, Kramer and Jacklin (1979) looked at the effects of the sex of the subject, the sex of the partner and the interaction between the two effects in same- and mixed-sex pairs of same-age children. In their study, the actor effect reflected girls' tendency, relative to boys', to offer a toy to their partner, whereas the partner effect showed girls' tendency to be offered a toy more than boys were offered (Kenny, 1988). Similar to a matched t test, the correlation between the paired scores from a dyad is important in this analysis, and the mathematical model used to derive the statistical tests is based on a 2 X 2 ANOVA design with fixed effects (Seay & Kay, 1983).

Of particular interest to the design of the current study is a method developed by Seay and Kay (1983). They extended Kramer and Jacklin's basic design to include a third, within-dyad variable, which is the relationship between actors and partners. In Kramer and Jacklin's (1979) study, there was no systematic way to distinguish the members of the dyad because the subjects were same-aged peers, whereas this differentiation was possible in Seay and Kay's (1983) design because the subjects were mother-son, mother-daughter, father-son, and father-daughter combinations. The addition of the third variable, in this case, parent vs. child, allows for investigation of actor and partner effects as well as the effects of the relationship status of the pair. Seay and Kay (1983) noted that their model can be

conceptualized as a variant of a 2 X 2 X 2 ANOVA with fixed effects. Each member of the dyad contributes a score, and the correlation between these scores is accounted for in the analysis. The main effects are sex of actor (α), sex of partner (β), and the type of relationship between the subject and the partner (γ).

Seay and Kay's (1983) model was utilized in this study because it could accommodate the main components of the design and goals of the current study, and, as opposed to a standard ANOVA design, it allowed for the direct examination of sex of actor effects. One element that is missing from Seay and Kay's (1983) design, but important in the current study, is the investigation of changes over time (e.g., from Time 1 to Time 2). The necessary modifications to Seay and Kay's design which allow examination of this variable are addressed in the following sections. When Seay and Kay's design is applied to the data of the current study, the main effects remain as sex of actor (α), sex of partner (β), and the type of relationship between the subject and the partner (γ), where γ represents sibling status (older vs. younger). The additional variable unique to this study is time (χ).

Method of the Analysis

The following table is taken from Seay and Kay (1983), and modified to suit the design of this study.

Table 1

The 2 X 2 X 2 Design for Sibling Interaction and Parent Intervention

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	Older as Actor		Younger as Actor	
	Relationship			
	Sex of Partner		Sex of Partner	
Sex of Actor	Boy	Girl	Boy	Girl
Boy	Older Boy to Younger Boy (oByB)	Older Boy to Younger Girl (oByG)	Younger Boy to Older Boy (yBoB)	Younger Boy to Older Girl (yBoG)
Girl	Older Girl to Younger Boy (oGyB)	Older Girl to Younger Girl (oGyG)	Younger Girl to Older Boy (yGoB)	Younger Girl to Older Girl (yGoG)

Seay and Kay's (1983) analysis

The following procedure was followed in order to analyze the data using Seay and Kay's (1983) methodology. The steps that were taken and equations that were used to derive the values for the analyses are listed below. Physical aggression (PA) is used as the example variable in these equations. Any notation that is used in the equations is either defined within the equations themselves, in the following section, or in Table 1.

Older's (O) physical aggression (PA) at Time 1 (_1) = OPA_1

Older's (O) physical aggression (PA) at Time 2 (_2) = OPA_2

Younger's (Y) physical aggression (PA) at Time 1 (_1) = YPA_1

Younger's (Y) physical aggression (PA) at Time 2 (_2) = YPA_2

1) Sum (M) and difference scores (D) were created within each family for each variable (e.g., PA, VA) to allow for examination of all main effects and interactions excluding Time effects

a) Sum (M) represents the overall level of each variable (e.g., physical aggression), regardless of sibling status (older vs. younger) or time (time 1, time 2).

$\underline{M}PA = (OPA\_1 + OPA\_2 + YPA\_1 + YPA\_2)/4$

Means and variances for $\underline{M}PA$ were then calculated for each possible sex pairing:
e.g., $\underline{M}PA\_oByB$, $\underline{M}PA\_oByG$, $\underline{M}PA\_oGyB$, $\underline{M}PA\_oGyG$

b) Difference (D) provides the contrasts for the within-subjects effect of sibling status (older vs. younger)

$\underline{D}PA = (OPA\_1 + OPA\_2 - YPA\_1 - YPA\_2)/4$

Means and variances for $\underline{D}PA$ were then calculated for each possible sex pairing:
e.g., $\underline{D}PA\_oByB$, $\underline{D}PA\_oByG$, $\underline{D}PA\_oGyB$, $\underline{D}PA\_oGyG$

The second step extends Seay and Kay's (1983) design to include the time variable. Kenny (1996; personal communication) noted that changes over time could be examined in Seay and Kay's (1983) design by entering variables that contrast Time 1 and Time 2, and that reflect the interaction between Time and Sibling Status.

2) Sum (<u>Mt</u>) and difference scores (<u>Dt</u>) were created within each family for each variable to allow for examination of all interaction effects involving Time

a) Sum (<u>Mt</u>) provides the within family contrasts between Time 1 and Time 2

$$\underline{Mt}PA = (OPA\_1 - OPA\_2 + YPA\_1 - YPA\_2)/4$$

Means and variances for <u>Mt</u>PA were then calculated for each possible sex pairing:
e.g., <u>Mt</u>PA_oByB, <u>Mt</u>PA_oByG, <u>Mt</u>PA_oGyB, <u>Mt</u>PA_oGyG

b) Difference (<u>Dt</u>) provides the within family contrasts for the interaction between Time and Sibling Status

$$\underline{Dt}PA = (OPA\_1 - OPA\_2 - YPA\_1 + YPA\_2)/4$$

Means and variances for <u>Dt</u>PA were then calculated for each possible sex pairing:
e.g., <u>Dt</u>PA_oByB, <u>Dt</u>PA_oByG, <u>Dt</u>PA_oGyB, <u>Dt</u>PA_oGyG

3) With the values attained in step 1 for <u>M</u> and <u>D</u>, the unbiased estimators for all main and interaction effects were calculated using the following equations:

Constant (μ)
$$\mu = (\underline{M}PA\_oByB + \underline{M}PA\_oByG + \underline{M}PA\_oGyB + \underline{M}PA\_oGyG)/4$$

Sex of Actor effect (α)
$$\alpha = (\underline{M}PA\_oByB - \underline{M}PA\_oGyG + \underline{D}PA\_oByG - \underline{D}PA\_oGyB)/4$$

Sex of Partner effect (β)
$$\beta = (\underline{M}PA\_oByB - \underline{M}PA\_oGyG - \underline{D}PA\_oByG + \underline{D}PA\_oGyB)/4$$

Sibling Status effect (γ)

γ = (DPA_oByB + DPA_oByG + DPA_oGyB + DPA_oGyG)/4

Sex of Actor * Sex of Partner interaction (αβ)

αβ = (MPA_oByB - MPA_oByG - MPA_oGyB + MPA_oGyG)/4

Sex of Partner * Sibling Status interaction (βγ)

βγ = (DPA_oByB - DPA_oGyG - MPA_oByG + MPA_oGyB)/4

Sex of Actor * Sibling Status interaction (αγ)

αγ = (DPA_oByB - DPA_oGyG + MPA_oByG - MPA_oGyB)/4

Sex of Actor * Sex of Partner * Sibling Status interaction (αβγ)

αβγ = (DPA_oByB - DPA_oByG - DPA_oGyB + DPA_oGyG)/4

4) With the values attained in step 2 for Mt and Dt, the unbiased estimators for Time (χ) and all interaction effects with Time were calculated using the following equations:

Time effect (χ)

χ = (MtPA_oByB + MtPA_oByG + MtPA_oGyB + MtPA_oGyG)/4

Sex of Actor * Time interaction (αχ)

αχ = (MtPA_oByB - MtPA_oGyG + DtPA_oByG - DtPA_oGyB)/4

Sex of Partner * Time interaction (βχ)

βχ = (MtPA_oByB - MtPA_oGyG - DtPA_oByG + DtPA_oGyB)/4

Sibling Status * Time interaction (γχ)

γχ = (DtPA_oByB + DtPA_oByG + DtPA_oGyB + DtPA_oGyG)/4

Sex of Actor * Sex of Partner * Time interaction (αβχ)

αβχ = (MtPA_oByB - MtPA_oByG - MtPA_oGyB + MtPA_oGyG)/4

Sex of Partner * Sibling Status * Time interaction (βγχ)

βγχ = (DtPA_oByB - DtPA_oGyG - MtPA_oByG + MtPA_oGyB)/4

Sex of Actor * Sibling Status * Time interaction (αγχ)

αγχ = (DtPA_oByB - DtPA_oGyG + MtPA_oByG - MtPA_oGyB)/4

Sex of Actor * Sex of Partner * Sibling Status * Time interaction (αβγχ)

αβγχ = (DtPA_oByB - DtPA_oByG - DtPA_oGyB + DtPA_oGyG)/4

5) With the variances attained in steps 1 and 2 for M, Mt, D, and Dt the estimated variances were calculated using the following equations:

Est var (μ) = est var (αβ)

  = (var MPA_oByB + var MPA_oByG + var MPA_oGyB + var MPA_oGyG)/ 16N

Est var (α) = est var (β)

  = [est var (MPA_oByB) + est var (MPA_oGyG) + est var (DPA_oByG) + est var (DPA_oGyB)]/16N

Est var (βγ) = est var (αγ)

  = [est var (MPA_oByG) + est var (MPA_oGyB) + est var (DPA_oByB) + est var (DPA_oGyG)]/16N

Est var (γ)   = est var ($\alpha\beta\gamma$)

= (var $\underline{D}$PA_oByB + var $\underline{D}$PA_oByG + var $\underline{D}$PA_oGyB + var $\underline{D}$PA_oGyG)/ 16N

Est var (χ)   = est var ($\alpha\beta\chi$)

= (var $\underline{Mt}$PA_oByB + var $\underline{Mt}$PA_oByG + var $\underline{Mt}$PA_oGyB + var $\underline{Mt}$PA_oGyG)/ 16N

Est var ($\alpha\chi$)   = est var ($\beta\chi$)

= [est var ($\underline{Mt}$PA_oByB) + est var ($\underline{Mt}$PA_oGyG) + est var ($\underline{Dt}$PA_oByG) + est var ($\underline{Dt}$PA_oGyB)]/16N

Est var ($\beta\gamma\chi$)= est var ($\alpha\gamma\chi$)

= [est var ($\underline{Mt}$PA_oByG) + est var ($\underline{Mt}$PA_oGyB) + est var ($\underline{Dt}$PA_oByB) + est var ($\underline{Dt}$PA_oGyG)]/16N

Est var ($\gamma\chi$)   = est var ($\alpha\beta\gamma\chi$)

= (var $\underline{Dt}$PA_oByB + var $\underline{Dt}$PA_oByG + var $\underline{Dt}$PA_oGyB + var $\underline{Dt}$PA_oGyG)/ 16N

where 16 = the square of the number of groups

where N = the number of subjects per group

6) The square roots of the estimated variances were taken to give the estimated standard errors for all the main and interaction effects.

7) The test statistic of the estimators for all the main and interaction effects including and excluding Time divided by its respective standard error is distributed as a t with n $_{oByB}$ + n $_{oByG}$ + n $_{oGyB}$ + n $_{oGyG}$ - 4 degrees of freedom.

Children's Aggression and Self-assertion

Overall Rates

Children's aggression and self-assertion were divided into four broad categories: Physical aggression, physical assertion, verbal aggression and verbal assertion. These broad categories were also further broken down into more specific forms of verbal and physical self-assertion and aggression. For example, verbal aggression included nagging, insulting, and threatening. Overall rates are given for the broad categories of self-assertion and aggression. In 9 hours of home observation, each child, on average, used physical aggression 10.88 times ($\underline{M}$ = 12.83 at Time 1 and $\underline{M}$ = 8.92 at Time 2), physical assertion 52.98 times ($\underline{M}$ = 65.95 at Time 1 and $\underline{M}$ = 40.01 at Time 2), verbal aggression 10.76 times ($\underline{M}$ = 8.55 at Time 1 and $\underline{M}$ = 12.96 at Time 2), and verbal assertion 79.61 times ($\underline{M}$ = 33.51 at Time 1 and $\underline{M}$ = 85.21 at Time 2).

Main Analyses

The analyses of the broad and specific categories of children's aggression and self-assertion are presented in the following section. The results of the analysis of the broad category of each particular type of aggression or assertion is presented first (e.g., verbal aggression), and that is followed by the more specific forms within each broad category (e.g., nagging, insulting, threatening). The factors in the analyses of the children's aggression and self-assertion are Sex of Actor (α; girl, boy), Sex of Partner (β; girl, boy), Sibling Status (γ; older, younger), Time (χ; time 1, time 2) and the interactions between these factors. One family had to be dropped from all analyses because there was no data for this family in the second time period. Thus, when all other 39 families are included in the analyses, the degrees of freedom are $\underline{t}$ (35). However, the degrees of freedom differ in the analyses of the specific categories because in some families there were times when the parents did not make particular responses (e.g., Condone following Severe Physical Aggression) in a particular cell or cells (e.g., oByG) which necessitated dropping that family

from the analysis. For each analysis, all the means are presented in table form in Appendix A and all the effects are presented in Table D1 in Appendix D. The highest order significant effects which involve the factors of most importance (e.g., Sex of Actor, Sex of Partner) are presented in figure form in the text.

Physical Aggression

The broad category of physical aggression was further differentiated into mild and severe forms. Mild physical aggression was commonly pushing and pulling, and typical acts of severe physical aggression included kicking and hitting. The same hypotheses were proposed for each of the physical aggression categories. It was expected that boys would be more physically aggressive than girls, and boy partners would receive more aggression than girl partners. Also, girls were expected to become less aggressive over time, whereas boys' aggression was expected to be relatively stable over time. Regarding the other independent variables, it was hypothesized that older children would be more aggressive than their younger siblings, but that this difference would be less evident at Time 2 than at Time 1. It was also hypothesized that the level of overall aggression would decline from Time 1 to Time 2. As hypothesized, boys were more physically aggressive than girls, $t(35) = 2.35$, $p <$ .05, older children were more aggressive than younger children, $t(35) = 3.93$, $p < .001$, and there was more aggression at Time 1 than at Time 2, $t(35) = 2.51$, $p < .02$. However, contrary to the hypothesis, boy partners did not receive more aggression than girl partners, $t(35) = -.05$, $p > .05$ (Table 2). The main effects of Sex of Actor and Sibling Status were qualified by significant interactions with Time. The Sex of Actor X Time interaction showed that the level of aggression displayed by boys and girls became more similar over time, $t(35) = 2.40$, $p < .05$. It was expected that girls' aggression would decline more than boys' aggression; however, in actual fact, this effect was due mainly to the decline in boys' aggression (Figure 1). In terms of the Sibling Status X Time interaction, although both children's aggression declined from Time 1 to Time 2, older children's aggression declined more dramatically. Thus at Time 2 the level of younger children's aggression became more

similar to that of their older siblings than it had been at Time 1, t (35) = 2.41, $p < .05$ (Table 2).

Figure 1

Frequency of Overall Physical Aggression for Girls and Boys at Both Time Periods
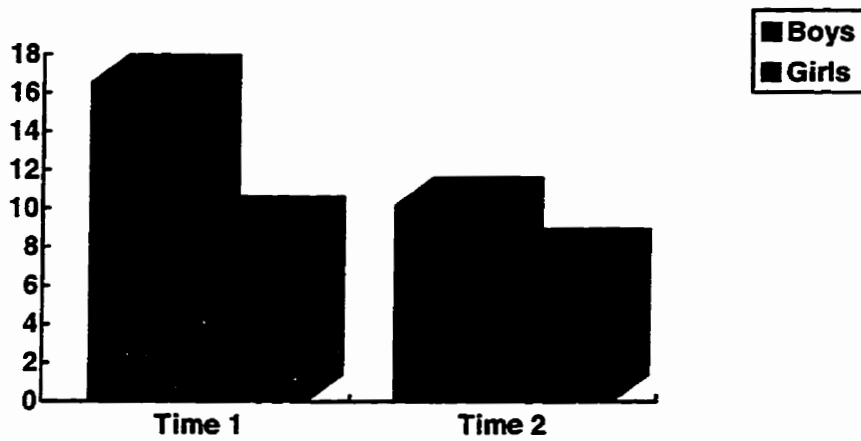
Mild Physical Aggression. As with overall physical aggression, boys showed more mild physical aggression than girls, t (35) = 2.18, p < .05, older children were more aggressive than younger children, t (35) = 4.97, p < .001, and there was more mild physical aggression at Time 1 than at Time 2, t (35) = 2.26, p < .05 (Table A2; Figure 2). An effect not found for overall physical aggression was an interaction between Sex of Partner and Sibling Status in which older children showed more mild aggression when their partner was a girl, whereas younger children were more aggressive when their partner was a boy, t (35) = - 2.33, p < .05 (Figure 3). This result supports the hypothesis that more aggression would be directed to boy partners than girl partners, but only when younger children were the aggressors. Unlike the findings for overall physical aggression, the level of girls' mild physical aggression did not become more similar to the level of boys' mild physical aggression over time.

Figure 2

Frequency of Mild Physical Aggression for Girls and Boys

Mild Physical Aggression

Figure 3

Frequency of Older and Younger Children's Mild Physical Aggression
with Girl and Boy Partners
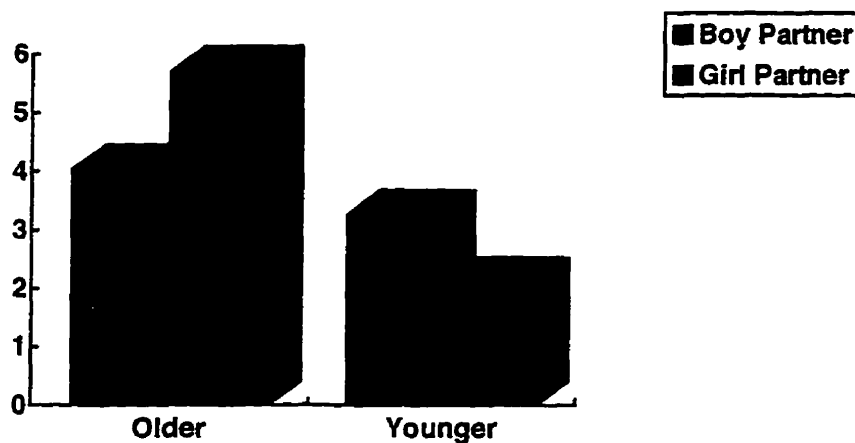
Severe Physical Aggression. Similar to the main effects found for overall physical aggression and mild physical aggression, boys showed more severe physical aggression than girls, $\underline{t}$ (35) = 2.23, $\underline{p}$ < .05, older children were more aggressive than younger children $\underline{t}$ (35) = 3.01, $\underline{p}$ < .01, and there was more severe physical aggression at Time 1 than at Time 2, $\underline{t}$ (35) = 2.14, $\underline{p}$ < .05. Also similar to overall physical aggression, there was no main effect of Sex of Partner, $\underline{t}$ (35) = -.48, $\underline{p}$ > .05, and the Sex of Actor main effect was qualified by a significant interaction with Time (Table A3). Contrary to the hypothesis, the level of aggression displayed by boys and girls became more similar over time, $\underline{t}$ (35) = 2.72, $\underline{p}$ < .05. This effect was mainly due to the decline in boys' severe physical aggression from Time 1 to Time 2 (Figure 4).

Figure 4

Frequency of Severe Physical Aggression for Girls and Boys at Both Time Periods

12
10
8
6
4
2
0

■Boys
■Girls

Time 1   Time 2
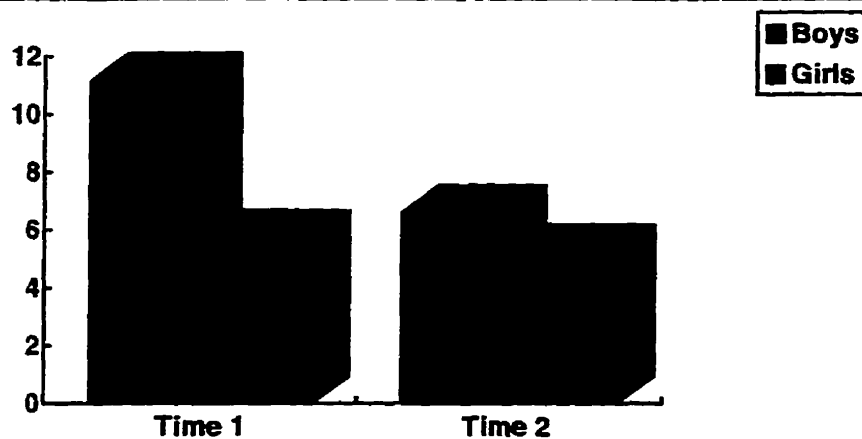
Summary of Sex Differences in Physical Aggression. For overall, mild, and severe physical aggression, boys were more physically aggressive than girls. Contrary to expectation, girls became more similar to boys in terms of the level of overall and severe physical aggression that was displayed over time. This finding was mostly attributable to a decline in boys' aggression and relative stability in girls' aggression from time 1 to time 2. It had been expected that due to a reciprocity effect, the level of physical aggression would be higher when the aggressor's partner was a boy. There was no sex of partner main effect; rather, the sex of the aggressor's partner influenced levels of mild aggression in the form of an interaction with the actor's age. Specifically, older children showed more mild aggression when their partner was a girl, whereas younger children were more aggressive when their partner was a boy. This effect can be viewed in a bully-victim framework in which older children tend to bully "weaker" victims (e.g., younger, female) and when older children are also male, they may create an atmosphere in which younger children are forced to be more aggressive in order to defend themselves from a stronger, more aggressive sibling.

Physical Assertion

Girls and boys were expected to show similar levels of the broad category of physical assertion, and the sex of the child recipient was not expected to influence the frequency of physical assertion. It was hypothesized that physical assertion would be more common in younger children than their older siblings, and that there would be more physical assertion in Time 1 than in Time 2. As expected, there was no difference between girls and boys in how much they used physical assertion during sibling conflict, t (35) = .81, p > .05. Also in correspondence with the hypotheses, was the Time main effect that showed more physical assertion in Time 1 than in Time 2, t (35) = 4.66, p < .001 (Table A4). Unexpectedly, however, the Time main effect was qualified by a significant Sex of Actor X Time interaction, in which the difference between girls and boys became less in Time 2 than in Time 1, t (35) = 2.60, p < .02. More specifically, although the physical assertion of both girls and boys declined from Time 1 to Time 2, boys' assertion started at a higher level and declined more substantially than girls' assertion. Thus, the level of physical assertion of boys and girls became more similar at Time 2, with the level of girls' physical assertion becoming slightly higher than boys' at Time 2 (Figure 5).

Figure 5

Frequency of Overall Physical Assertion for Girls and Boys at Both Time Periods
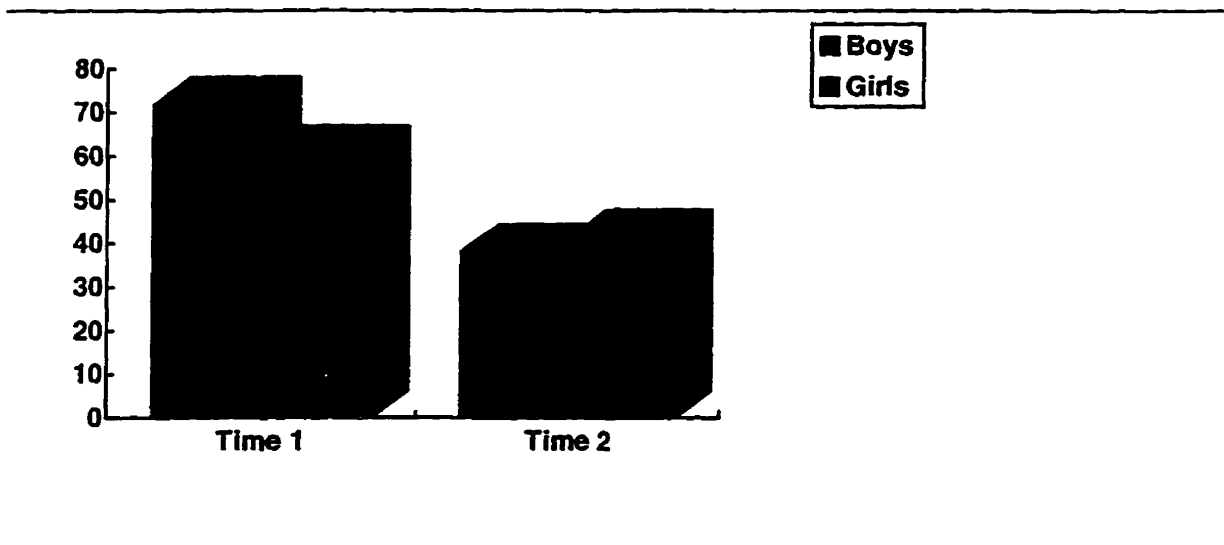
Mild Physical Assertion. The mild physical assertion category made up the majority of the broad physical assertion category, thus the hypotheses for these categories are also similar. Girls and boys were not expected to differ in their use of this behaviour, younger children were expected to show more mild physical assertion than older children, and more mild physical assertion was expected to occur at Time 1 than at Time 2. As hypothesized, girls and boys showed similar levels of mild physical assertion, t (35) = .10, p > .05, younger children engaged in more physical assertion than older children, t (35) = - 3.18, p < .01, and there was more mild physical assertion at Time 1 than at Time 2, t (35) = 3.77, p < .001 (Table A5). Contrary to expectation, the time main effect was qualified by a significant Sex of Actor by Time interaction, t (35) = 2.27, p <. 05. Specifically, at Time 2 girls showed more mild physical assertion than boys, but the reverse was found at Time 1 (Figure 6).

Figure 6

Frequency of Mild Physical Assertion for Girls and Boys at Both Time Periods
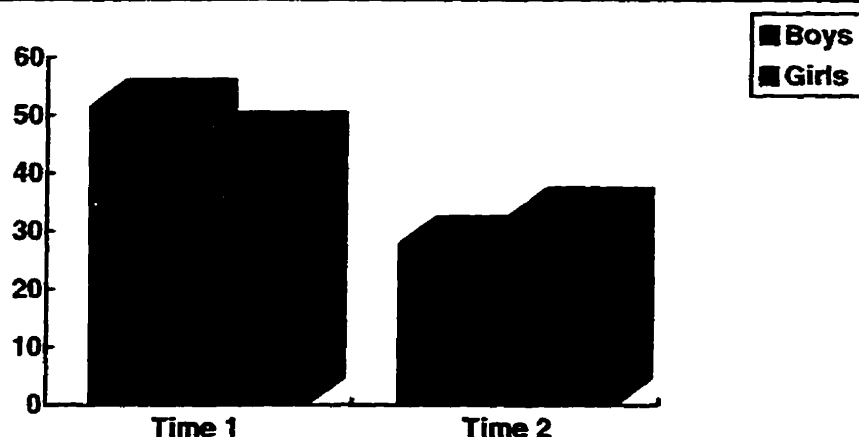
Severe Physical Assertion. In addition to mild physical assertion, there were three other categories of physical assertion; grabbing, physical contact and property damage. They were considered to represent more intense, hostile physical behaviours than those categorized as mild physical assertion, and may also share some features with physical aggression. Separation of mild and severe forms of both physical assertion and aggression allowed for examination of similarities and differences between these categories. Of particular interest was whether severe physical assertion was more similar to mild physical aggression, or mild physical assertion. In terms of sex differences, for each of the more hostile forms of physical assertion it was expected that boys would be more assertive than girls, and this difference would increase over time due to a more significant decline for girls. Boys were also considered to be more likely to be recipients of severe physical assertion than girls. It was hypothesized that older children would engage in more severe physical assertion than younger children, but the siblings would become more similar over time. The amount of severe physical assertion was expected to decline from Time 1 to Time 2.

Grabbing.   Contrary to expectation, there was no Sex of Actor main effect for the amount of grabbing that occurred, t (35) = 1.30, p > .05. There was a Sex of Partner main effect, but it was not in the predicted direction; girls were more likely to have an object grabbed out of their hands than were boys, t (35) = - 2.06, p < .05. As expected, older children engaged in more grabbing than younger children, t (35) = 4.70, p < .001, and the amount of grabbing engaged in by both children declined over time, t (35) = 8.50, p < .001 (Table A6). The former two main effects were qualified, however, by significant two-way interactions with Time (Sex of Partner X Time; Sibling Status X Time) and there was also a three-way interaction involving Sex of Partner, Sibling Status and Time, t (35) = 2.20, p < .05. This higher-order interaction showed that girl partners had objects grabbed from them by both older and younger actors more frequently than boy partners at Time 1, but at Time 2 this effect was only found with older actors (Figure 7).

Figure 7

Frequency of Older and Younger Children's Grabbing
with Girl and Boy Partners at Both Time Periods
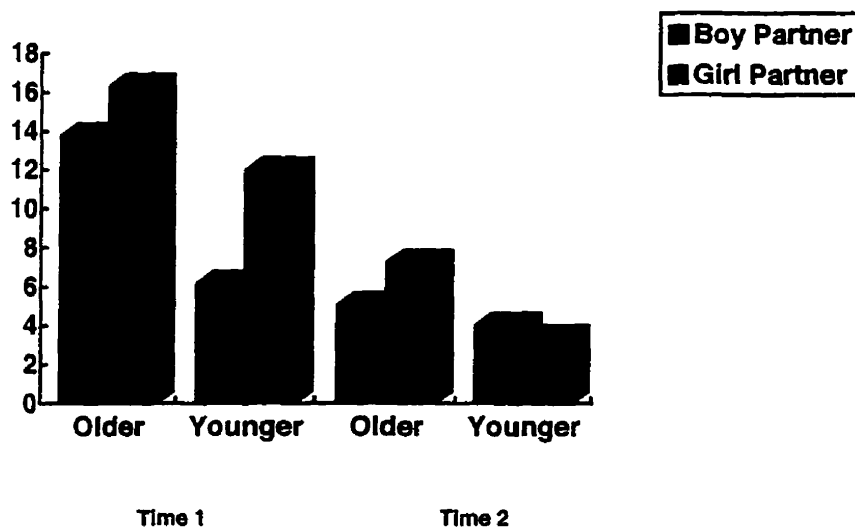
Property Damage. As expected, boys engaged in more property damage than girls, t (35) = 2.19, p < .05, and property damage was more common at Time 1 than at Time 2, t (35) = 2.66, p < .02. Contrary to the hypothesized result, younger children were more likely to damage property than their older siblings, t (35) = - 2.03, p < .05 (Table A7). The former two main effects were qualified by interactions with Time; boys engaged in more property damage than girls but the difference between boys and girls became much smaller over time, t (35) = 2.61, p < .02 for Sex of Actor X Time. Likewise, for the Sibling Status X Time interaction, older and younger siblings became more similar over time, t (35) = - 2.10, p < .05. There was also a three-way interaction between Sex of Actor, Sibling Status, and Time which showed that overall boys engaged in more property damage than girls at Time 1, but at Time 2 the finding was less clear. At Time 2, older boys were still more likely to damage property than older girls, but younger girls were more likely to damage property than younger boys, t (35) = - 2.04, p < .05 (Figure 8).

Figure 8

Frequency of Older and Younger Girls' and Older and Younger Boys' Property Damage at Both Time Periods
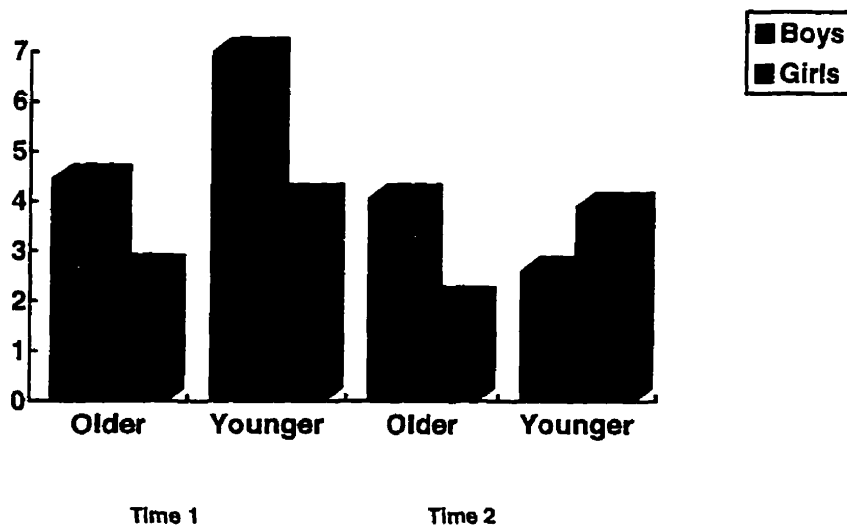
Physical Contact. Contrary to expectation, boys and girls engaged in similar levels of physical contact during sibling conflict, t (35) = .72, p > .05 for Sex of Actor effect, and were equally often the recipients of this type of physical assertion, t (35) = .59, p > .05 for Sex of Partner effect. As hypothesized, older children engaged in more physical contact than their younger counterparts, t (35) = 3.65, p < .001, and there was more physical contact at Time 1 than at Time 2, t (35) = 2.80, p < .01 (Table A8).

Summary of Sex Differences in Physical Assertion. It was expected that there would be no difference between girls and boys in the level of the broad and mild categories of physical assertion, whereas boys would show more of the severe forms. There was no Sex of Actor main effect for overall and mild physical assertion. However, boys engaged in slightly more mild physical assertion than girls at Time 1, whereas girls engaged in somewhat higher levels of this behaviour than did boys at Time 2. Also, boys and girls became more similar over time in terms of the level of overall physical assertion that they displayed, with girls having a slightly higher level than boys at Time 2. Of the three more hostile forms of physical assertion, it was only for property damage that boys engaged in a higher rate than girls. However this main effect was present only at Time 1. At Time 2, older boys were more likely to damage property than older girls, but younger girls were more likely to damage property than younger boys. Contrary to expectation, when examining both physical aggression and assertion, girls and boys become more like each other in terms of their increasing use of overall physical assertion and property damage from Time 1 to Time 2. Finally, in terms of sex differences, it appears that property damage is more similar to physical aggression than all the other severe physical assertion categories (grabbing, physical contact).

Verbal Aggression

The hypothesis that girls would engage in more verbal aggression than boys was tested. Also, it was expected the level of verbal aggression would be higher when the partner of the aggressor was a girl. Older children were expected to engage in verbal

aggression more than their younger siblings, and verbal aggression was expected to increase in frequency over time. These hypotheses were also expected to hold for the more specific categories of verbal aggression. Contrary to the tested hypothesis, girls and boys showed similar levels of verbal aggression, t (35) = 1.71, p < .10. The level of aggression also did not vary significantly with the sex of the partner, t (35) = .59, p > .05. Additionally, older children were more verbally aggressive than their younger siblings, t (35) = 5.94, p < .001, and verbal aggression was more prevalent at Time 2 than it was at Time 1, t (35) = - 2.32, p < .05 (Table A9).

Nagging. The nagging results replicated those found for the overall verbal aggression category. Contrary to the tested hypothesis that girls would nag more than boys, there were no sex differences in the amount of nagging that occurred during sibling conflict, ts (35) < 1.00, ps > .05 for Sex of Actor and Sex of Partner effects. Nagging increased from Time 1 to Time 2, t (35) = - 2.40, p < .05, and older children nagged more frequently than younger children, t (35) = 4.21, p < .001 (Table A10).

Insulting. Contrary to the tested hypothesis, boys insulted more than girls, t (35) = 2.05, p < .05. The frequency of insulting did not vary significantly with the sex of the partner, t (35) = .16, p > .05. Unexpectedly, insulting was also equally prevalent at both time periods, t (35) = - 1.12, p > .05. As predicted, however, older children insulted more than their younger siblings, t (35) = 2.30, p < .05 (Table A11; Figure 9).

Figure 9

Frequency of Insulting for Girls and Boys

Insulting
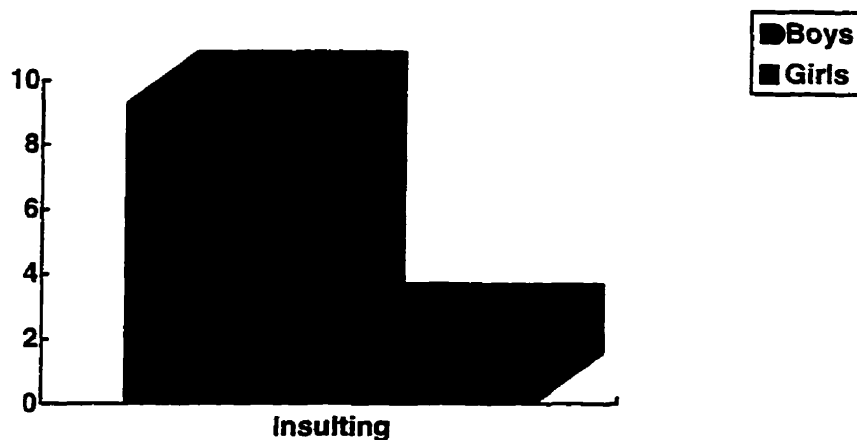
Threatening. Contrary to the tested hypothesis, there was no difference between girls and boys in how often they used verbal threats, t (35) = 1.01, p > .05. The amount of threatening also did not vary significantly with the sex of the partner, t (35) = .87, p > .05. As predicted, older children threatened more often than their younger siblings, t (35) = 2.30, p < .05, and verbal threats were more prevalent at Time 2 than at Time 1, t (35) = - 2.25, p < .05 (Table A12).

Summary of Sex Differences in Verbal Aggression. The hypothesis was tested that girls would engage in higher levels of verbal aggression than boys. However, in most cases the findings revealed non-significant differences in the opposite direction. The only significant sex difference was for insulting, and it was also not in the predicted direction; boys insulted their siblings more often than girls.

Verbal Assertion

There were no sex differences expected in the broad category of verbal assertion. Older children were expected to use verbal assertion more frequently than younger children, but it was hypothesized that younger children would become more similar to their older siblings over time. Additionally, the total amount of verbal assertion used was expected to increase over time. As predicted, girls and boys showed similar levels of verbal assertion, t (35) = - 0.38, p > .05, the level of verbal assertion did not depend on the sex of the child who was the recipient of the assertion, t (35) = - 0.36, p > .05, and older children showed more verbal assertion than their younger siblings, t (35) = 4.47, p < .001. As hypothesized, a Sibling Status X Time interaction qualified the Sibling Status main effect, showing that younger children's level of assertion became more similar to that of older children at Time 2, t (35) = 3.86, p < .001 (Table A13).

Simple Command. It was hypothesized that boys would use more simple commands than girls, but the frequency with which simple commands were used was not expected to vary with the sex of the child receiving the command. Age differences were not expected, but an overall decline in the use of simple commands was expected from Time 1 to Time 2. Contrary to the hypothesis, girls and boys were equally likely to use simple commands, t (35) = - 0.14, p > .05. As predicted there was no Sex of Partner main effect, t (35) = 0.04, p > .05. Unexpectedly, older children used more simple commands than their younger siblings, t (35) = 3.98, p < .001, but this Sibling Status main effect was qualified by an interaction with Time. Specifically, younger children's rate of simple commands increased over time to more closely resemble older children's use of simple commands at Time 2, t (35) = 2.11, p < .05 (Table A14).

Reasoning. It was hypothesized that girls and boys would not significantly differ in the amount of reasoning that they used, and the amount of reasoning was not expected to vary with the sex of the child who was being reasoned with. Older children were expected to reason more frequently than younger children, but younger children were expected to

become more similar to their older siblings over time, and the total amount of reasoning was expected to increase over time. As expected, girls and boys reasoned equally often, t (35) = - 0.40, p > .05, and there was no Sex of Partner main effect, t (35) = - 0.47, p > .05. There was more reasoning at Time 2 than Time 1, t (35) = - 3.04, p < .01, and older children reasoned more than their younger siblings, t (35) = 3.06, p < .01. The Sibling Status and Time main effects, however, were qualified by an interaction between them. Specifically, younger children's rate of reasoning increased to more closely resemble that of older children's at Time 2, t (35) = 2.84, p < .01. (Table A15)

Reasoning about Feelings. It was hypothesized that girls would use reasoning that involved feelings more often than boys, but the amount of this type of reasoning was not expected to vary with the sex of the child partner. Older children were expected to reason about feelings more than younger children, the use of this form of reasoning was expected to increase from Time 1 to Time 2, and over time younger children were expected to become more similar to their older siblings in terms of the frequency with which they engaged in reasoning about feelings. Although other forms of verbal assertion were very commonly used (e.g., $\underline{M}$ = 44.24 for other reasoning), reasoning about feelings occurred very rarely in the data ($\underline{M}$ = 0.83). Contrary to the hypothesis, girls and boys did not differ in the amount of time that they used feeling talk, t (35) = 1.21, p > .05. As expected there was no Sex of Partner main effect, t (35) = - 1.22, p > .05, older children reasoned about feelings more than younger children, t (35) = 7.92, p < .001, and there was more feeling talk at Time 2 than Time 1, t (35) = - 8.04, p < .001. The Sibling Status and Time main effects were qualified by an interaction between them in which older children reasoned about feelings more often than younger children at Time 1, but the reverse was true at Time 2, t (35) = - 7.95, p < .001 (Table A16).

Indirect Assertion. It was hypothesized that girls would use indirect assertion (e.g., making a suggestion, questioning) more often than boys, but the amount of this type of verbal assertion was not expected to vary with the sex of the recipient of the indirect assertion. Older children were expected to use indirect assertion more than younger

children, but it was hypothesized that younger children would become more similar to their older siblings over time. Also, the total amount of indirect assertion was expected to increase over time. Contrary to the hypothesis, girls and boys were equally likely to use indirect assertion, t (35) = - 1.01, p > .05, and the amount of indirect assertion did not increase over time, t (35) = - 1.70, p < .10. As expected, older children used indirect assertion more than younger children, t (35) = 4.21, p < .001 (Table A17). There was also a Sex of Partner X Time interaction which showed that at Time 1 there was more indirect assertion when the interaction partner was a girl, whereas at Time 2 boys were slightly more likely to be the recipient of indirect assertion, t (35) = - 2.66, p < .02 (Figure 10).

Figure 10

Frequency of Indirect Assertion with Girl and Boy Partners at Both Time Periods
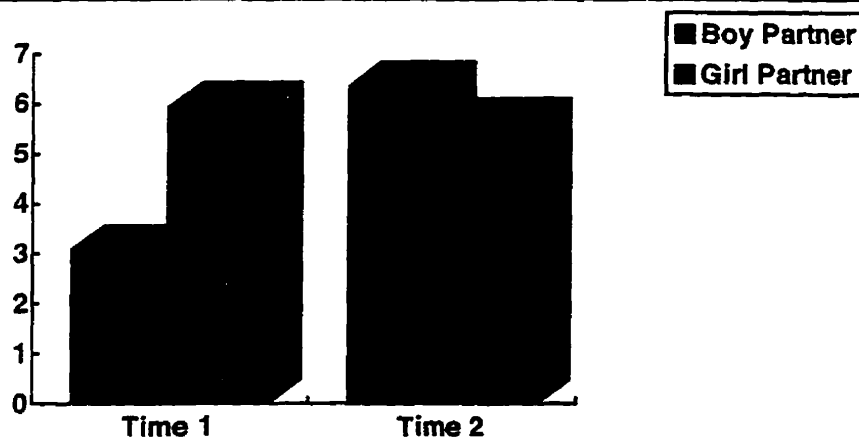
Summary of Sex Differences in Verbal Assertion. As expected, there were no significant differences between girls and boys in their use of the broad category of verbal assertion or in the amount of reasoning used during sibling conflict. Although boys were expected to engage in more simple commands than girls, and girls were expected to use more reasoning about feelings and indirect assertion than boys, there were no sex differences in the use of these forms of verbal assertion. In terms of the influence of the sex

partner, at Time 1 there was more indirect assertion when the interaction partner was a girl, whereas at Time 2 boys were slightly more likely to be the recipients of indirect assertion.

Summary of Sex Differences in Children's Aggression and Self-assertion

Before considering parents' reactions to children's aggression and self-assertion it is important to have a clear understanding of the findings that are of prime interest in the present study: sex differences in children's aggression and self-assertion. Sex of Actor main effects occurred only in the more severe categories of aggression and self-assertion, and they showed that boys engaged in higher levels of these behaviours than did girls. Additionally, the differences between boys and girls tended to diminish from Time 1 to Time 2, and this effect was generally attributable to a greater decline in boys' behaviour than in girls' behaviour over time. There were very few Sex of Partner effects, and when present they were qualified by interactions with the age of the sibling (Sibling Status) or the time period (Time). Thus, it was rare that in isolation the sex of the recipient of the aggression or self-assertion influenced how frequently these behaviours were directed towards them. It is noteworthy that there were no interactions between Sex of Actor and Sex of Partner effects. Such an interaction would have shown that girls and boys engage in different amounts of aggression and assertion depending on if they are interacting with siblings of the same versus opposite sex. The summary of these sex differences is provided in the following table (Table 2), and notation used in the table is defined in the Note following the table.

Table 2

Summary of Sex Differences in Children's Aggression and Self-assertion

Child Action	Sex of Actor	Sex of Partner	Sex of Actor Time 1 to 2	Interactions with Sex of Partner
Physical Aggression	B > G $^{\sqrt{}}$	n.s. ^{x}	B and G ^{x} more alike	-----
PA-Mild	B > G $^{\sqrt{}}$	n.s. ^{x}	n.s. ^{x}	> O with G ^{Px} > Y with B ^{P}
PA-Severe	B > G $^{\sqrt{}}$	n.s. ^{x}	B and G ^{x} more alike	-----
Physical Assertion	n.s. $^{\sqrt{}}$	n.s. $^{\sqrt{}}$	T1: B > G ^{x} T2: G > B	-----
PS-Mild	n.s. $^{\sqrt{}}$	n.s. $^{\sqrt{}}$	T1: B > G ^{x} T2: G > B	-----
PS-Grab	n.s. ^{x}	G ^{P} > B^P ^{x}	n.s. ^{x}	T1: > OY with G $^{P\ x}$ T2: > O with G ^{P}
PS-Physical Contact	n.s. ^{x}	n.s. ^{x}	n.s. ^{x}	
PS-Property Damage	B > G $^{\sqrt{}}$	n.s. ^{x}	T1: B > G ^{x} T2: OB > OG YG > YB	-----

Continued.....

Table 2 continued

Summary of Sex Differences in Children's Aggression and Self-assertion

Child Action	Sex of Actor	Sex of Partner	Sex of Actor Time 1 to 2	Interactions with Sex of Partner
Verbal Aggression	n.s. $^\checkmark$	n.s. $^\checkmark$	----	----
VA-Nag	n.s. $^\checkmark$	n.s. $^\checkmark$	----	----
VA-Insult	B > G ^{x}	n.s. $^\checkmark$	----	----
VA-Threat	n.s. $^\checkmark$	n.s. $^\checkmark$	----	----
Verbal Assertion	n.s. $^\checkmark$	n.s. $^\checkmark$	----	----
VS-Simple Command	n.s. ^{x}	n.s $^\checkmark$	----	----
VS-Reason	n.s. $^\checkmark$	n.s. $^\checkmark$	----	----
VS-Reason re: Feelings	n.s. ^{x}	n.s. $^\checkmark$	----	----
VS-Indirect Assertion	n.s. ^{x}	n.s. $^\checkmark$	----	T1: > with G $^{p\ x}$ T2: minimally > with B ^{p}

Note: [a] Physical Aggression= PA, Physical Assertion= PS, Verbal Aggression= VA, Verbal Assertion= VS

[b] Boy= B, Girl = G

[c] Older= O, Younger= Y

[d] Time 1= T1, Time 2= T2

[e] B ^{p}= Boy partner, G ^{p} = Girl Partner

[f] Predicted result= $^\checkmark$, Non-predicted result= ^{x}, Non-predicted non-result= -----

Parents' Responses to Children's Aggression and Self-assertion

Overall Rates

Parents' responses to children's self-assertion and aggression were categorized as prohibit, condone, ambiguous, ignore, or no response. The rates of occurrence of each possible parent response to all categories of children's aggression and self-assertion are reported as mean proportions. The average proportion of prohibit was .15 (M = .17 in Time 1, M = .13 in Time 2), condone was .11 (M = .12 in Time 1, M = .09 in Time 2), ambiguous was .05 (M = .04 in Time 1, M = .06 in Time 2), ignore was .40 (M = .38 in Time 1, M = .41 in Time 2), and no response was .29 (M = .28 in Time 1, M = .31 in Time 2). Ambiguous responses occurred very infrequently and when they did occur they were distributed unevenly (e.g., relatively high occurrence in very few families). Also, the meaning of ambiguous responses is difficult to interpret, given that these responses typically took the form of distraction, or neutral, brief questioning that was not followed up on by the parents. Thus, although a few significant effects were found with this variable, they will not be reported. It is likely that these particular effects can be attributed to the low variance due to the infrequent or non-occurrence of ambiguous responses in most families with the exception of a small number of families in which the occurrence of ambiguous responses was disproportionately high.

The following analyses give further information about the relative rate of occurrence of each type of parent response to each broad category of child aggression and self-assertion, irrespective of the sex of the children. They allow for examination of whether the proportion of time that parents used each response was influenced by the particular type of child self-assertion and aggression, the sibling status of the child actor (older, younger), and the time period (time 1, time 2). It was expected that parents' responses would differ depending on what type of child action they followed. Specifically, it was hypothesized that parents would be more likely to prohibit, and less likely to condone, ignore, and show no response to physical and verbal aggression, with the strongest effect expected for physical aggression. On the other hand, the least prohibit and most condone, ignore, and lack of response were

expected for physical and verbal assertion, with the strongest effect expected for verbal assertion. Separate 4 (Type of Child Action) X 2 (Sibling Status) X 2 (Time) Repeated Measures ANOVAs were completed for each type of parent response (e.g., Prohibit, Condone, Ignore, No Response). The means for this overall analysis are found in Appendix B (Table B1), all effects are found in Appendix D (Table D2a) and the significant effects involving the Type of Child Action factor are found in the text in Figures 11 to 14.

Prohibit. The proportion of time that parents prohibited their children's aggression and self-assertion was influenced by the particular type of action taken by the child, F (3, 69) = 32.18, p < .001 (Table B1; Figure 11). To further examine this main effect, paired sample t-tests were completed. As expected, the t-tests showed that parents were most concerned about physical aggression, but contrary to the hypothesis verbal aggression and physical assertion received similar rates of prohibition. Specifically, parents were more likely to prohibit physical aggression than physical assertion, t (34) = 7.06, p <.001, verbal aggression, t (23) = 5.81, p < .001, and verbal assertion, t (33) = 7.69, p < .001. Verbal assertion was also prohibited significantly less often than physical assertion, t (37) = 4.94, p < .001, and verbal aggression, t (27) = 2.34, p < .05. There was also a main effect of Time, F (1, 23) = 5.69, p <.05, which reflected parents' greater use of prohibition at Time 1 than at Time 2 (M =.21 vs. M = .17). All the t-tests are presented in Appendix D (Table D2b).

Figure 11

Proportion of Parent Prohibit to Children's Aggression and Self-assertion
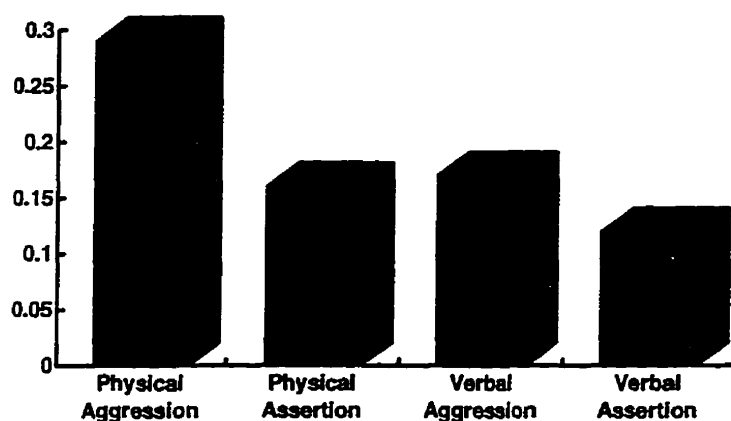
Condone. Similar to the results for parents' use of prohibit, the proportion of time that parents condoned their children's aggression and self-assertion was influenced by the particular type of action used by the child, F (3, 69) = 32.18, p < .001 (Table B1; Figure 12). As expected, paired sample t-tests showed that parents were more likely to condone their children's behaviour if it took the form of self-assertion rather than aggression. Specifically, parents condoned physical assertion more than physical aggression, t (34) = - 5.37, p <.001, and verbal aggression, t (27) = 3.04, p < .01. They also condoned verbal assertion more than physical aggression, t (33) = - 6.10, p < .001, and verbal aggression, t (27) = - 3.76, p < .01. Again, similar to the Prohibit results, there was also a main effect of Time, F (1, 23) = 10.55, p < .01, which showed that parents were more likely to condone their children's aggression and self-assertion at Time 1 than at Time 2 (M = .21 vs. M = .15). An additional result found for Condone but not Prohibit was a Sibling Status X Time interaction which qualified the Time main effect, F (1, 23) = 11.81, p < .01. Paired sample t-tests showed that at Time 1, parents were more likely to condone younger children's

aggression and self-assertion than the same behaviour in older children, t (25) = - 3.19, p <. 01. However, this difference was not found at Time 2, t (35) = .31, p > .05. Parents were also more likely to condone younger children's aggression and self-assertion at Time 1 than at Time 2, t (24) = 3.81, p <.01.

Figure 12

Proportion of Parent Condone to Children's Aggression and Self-assertion
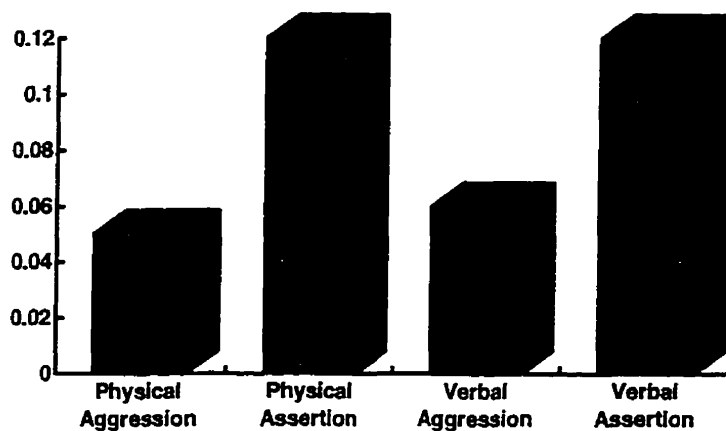
Ignore. Contrary to the hypothesis, the proportion of time that parents ignored their children's aggression or self-assertion was not influenced in isolation by the particular type of child action, F (3, 69) = 2.47, p < .10 (Table B1). However, there was a Type of Child Action X Sibling Status interaction, F (3, 69) = 3.13, p < .05 (Figure 13). Paired sample t-tests showed that parents were more likely to ignore older children's verbal assertion than younger children's verbal assertion (M = .41 vs. M = .39), t (37) = 2.06, p < .05. Although the difference between the mean proportion of time that parents ignored older and younger children's verbal aggression (M = .44 vs. M = .35) was actually greater than the difference between the mean proportion of time that parents ignored older and younger children's verbal assertion (M = .41 vs. M = .39), the t-test did not show that parents were significantly more likely to ignore older children's verbal aggression than younger

children's verbal aggression, t (27) = 1.51, $p > .05$. This lack of effect was likely due to the smaller number of subjects left in the verbal aggression analysis in comparison to the verbal assertion analysis after families with missing data were removed. In addition, parents were equally likely to ignore older and younger children's physical assertion ($M = .37$), t (38) = - .10, $p > .05$, and older and younger children's physical aggression ($M = .31$ vs. $M = .32$), t (34) = 1.02, $p > .05$.

Figure 13

Proportion of Parent Ignore to Older and Younger Children's

Aggression and Self-assertion
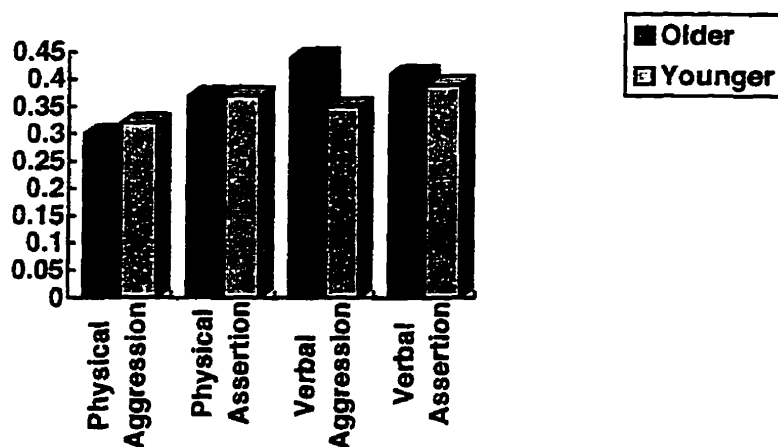
No Response. Similar to the results for Ignore and also contrary to the hypothesis, the proportion of time that parents showed no response to children's aggression or self-assertion was not influenced in isolation by the particular type of child action, F (3, 69) = 2.26, $p < .10$ (Table B1). As with Ignore, there was a Type of Child Action X Sibling Status interaction, F (3, 69) = 4.24, $p < .01$ for No Response (Figure 14). Paired sample t-tests showed no significant differences between the proportion of time that parents did not respond to any type of their older and younger children's aggression and self-assertion.

Parents showed a tendency, however, to be more likely to not respond to their younger children's verbal aggression than their older children's verbal aggression ($\underline{M}$ = .37 vs. $\underline{M}$ = .27), $\underline{t}$ (27) = - 2.00, $\underline{p}$ < .10.

Figure 14

Proportion of Parent No Response to Older and Younger Children's

Aggression and Self-assertion
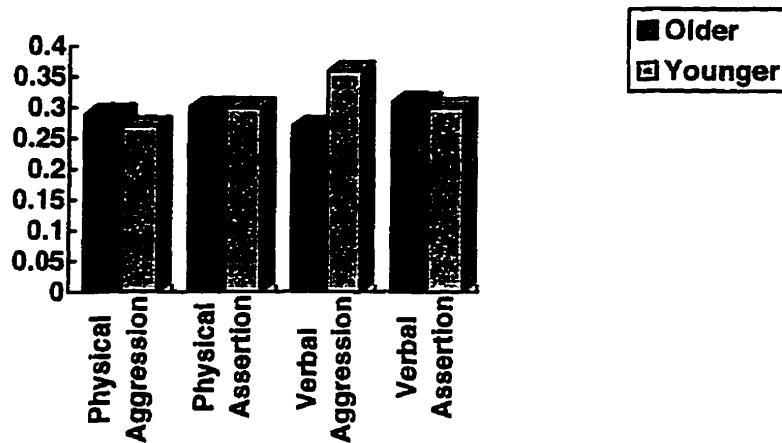
Main Analyses

The main goal of the following analyses was to investigate whether parents' responses to their children's aggression and self-assertion were influenced by the sex of the child actor. Each of the possible parent responses was examined in relation to each of the children's broad categories of self-assertion and aggression. Thus, it was possible to examine how often parents used each type of response depending on the type of action taken by the children, the characteristics of the child actor (e.g., sex, sibling status), sex of the partner, and the time period in which the action occurred. The same procedure that was used to examine children's aggression and self-assertion was used to analyze the parent

Sex of Actor (α; girl, boy), Sex of Partner (β; girl, boy), Sibling Status (γ; older, younger), Time (χ; Time 1, Time 2), and all possible interactions of these main effects. The pertinent results from the analyses of each pairing of children's broad categories of aggression and self-assertion and each type of parent response are discussed together in the following sections. The means for each analysis are presented in table form in Appendix B, all the effects are presented in Appendix D (Table D3), and the highest order significant effects involving Sex of Actor and Sex of Partner factors are presented in figure form in the text.

Children's Physical Aggression

Parent Prohibit. It was hypothesized that parents would be more likely to prohibit girls' physical aggression than boys' physical aggression, and that this difference would be stronger at Time 2 than Time 1. Parents were also expected to prohibit aggression more often when the victim was a girl. Older children's physical aggression was expected to be prohibited more than younger children's physical aggression. Additionally, parents were expected to prohibit physical aggression more at Time 2 than Time 1. Contrary to the hypothesis, parents prohibited boys' physical aggression more than girls' physical aggression, $\underline{t}$ (31) = 2.06, $\underline{p}$ < .05 (Table B2; Figure 15). Parents' use of prohibition did not depend on the sex of the child victim, $\underline{t}$ (31) = .53, $\underline{p}$ > .05.

Figure 15

Proportion of Parent Prohibit to Girls' and Boys' Physical Aggression
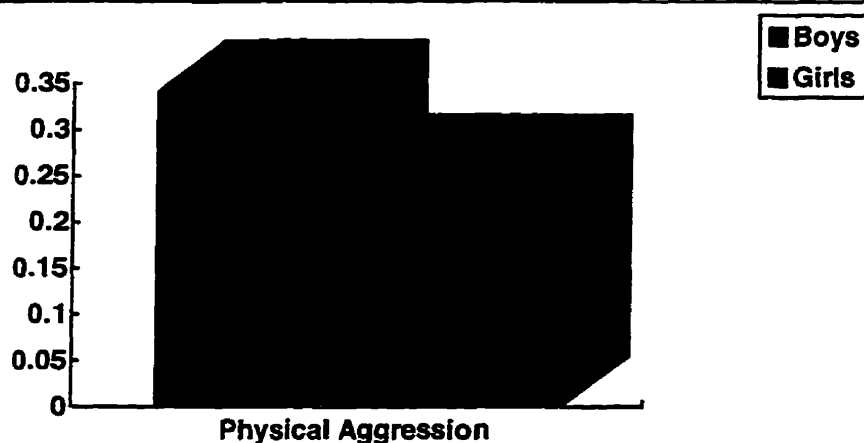
Parent Condone. It was hypothesized that parents would be more likely to condone boys' physical aggression than girls' physical aggression. Parents were also expected to be more likely to condone aggression when the victim was a boy. It was expected that younger children's physical aggression would be condoned more than older children's, and that more physical aggression would be condoned at Time 1 than at Time 2. Contrary to the hypothesis, parents did not condone boys' physical aggression more than girls' physical aggression, t (31) = - .40, p > .05. As expected, physical aggression was more likely to be condoned at Time 1 than at Time 2, t (31) = 2.84, p < .01 (Table B3).

Parent Ignore. It was hypothesized that parents would be more likely to ignore boys' physical aggression than girls' physical aggression. Parents were also expected to be more likely to ignore physical aggression when the victim was a boy. It was also expected that younger children's physical aggression would be ignored proportionately more often than older children's, and that more aggression would be ignored at Time 1 than Time 2.

However, there were no sex differences, ts (31) < 1.60, ps > .05, or any other significant effects for this variable (Table B4).

Parent No Response. It was hypothesized that parents would be more likely to show no response to boys' physical aggression than girls' physical aggression. Parents were also expected to be more likely to not respond to physical aggression when the victim was a boy. It was also expected that younger children's physical aggression would not be responded to more often than older children's, and that no response would occur more often at Time 1 than at Time 2. Contrary to the hypotheses regarding sex differences, parents were more likely to show no response to girls' physical aggression than boys' physical aggression, t (31) = - 2.93, p < .01, and they were more likely to not respond to physical aggression in which the victim was a girl as opposed to a boy victim, t (31) = - 2.18, p < .05. These main effects, however, were qualified by a complex, and difficult to interpret higher order interaction involving four factors: Sex of Actor, Sex of Partner, Sibling Status, and Time, t (31) = 2.60, p < .05. Specifically, for older children at Time 1 and younger children at Time 2, parents were more likely to not respond to girl aggressors with girl victims. For younger children at Time 1, parents were more likely to show no response to girl aggressors with boy victims, and for older children at Time 2, parents were more likely to not respond to boy aggressors with girl victims (Table B5).

Figure 16

Proportion of Parent No Response to Older and Younger Girls' and Older and Younger

Boys' Physical Aggression at Both Time Periods
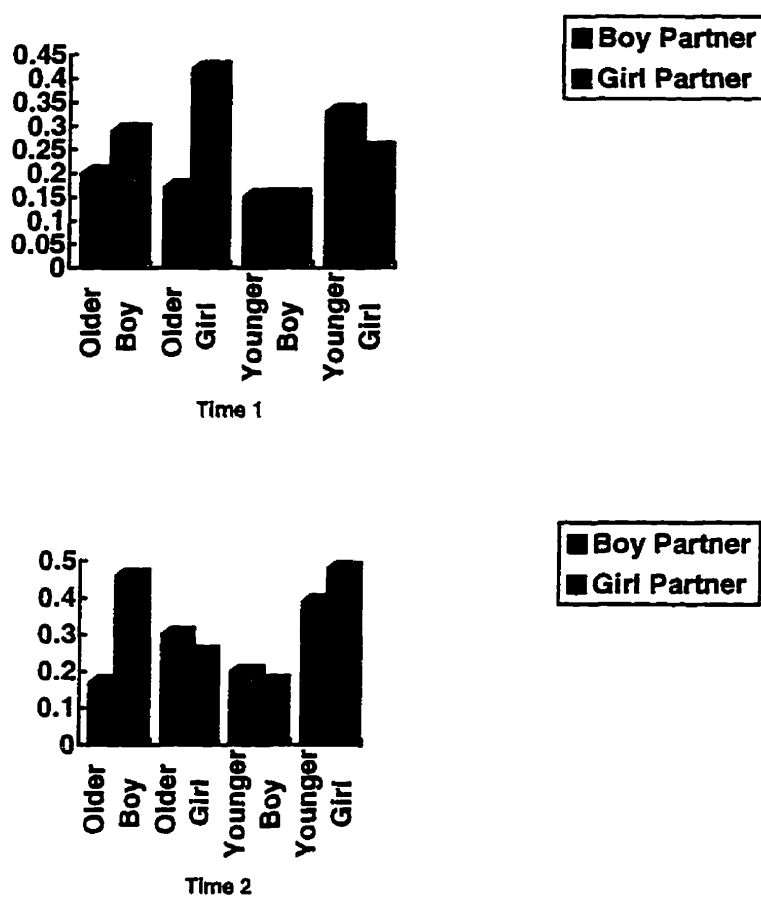
Time 1

Time 2

Children's Physical Assertion

Parent Prohibit. Parents were not expected to differentiate between their daughters

and sons in how often they prohibited physical assertion, and parents' rate of prohibition of

physical assertion was not expected to be influenced by the sex of the recipient of the assertion. Sibling status and Time effects were also not expected. Parents did, however, prohibit boys' physical assertion more than girls' physical assertion, t (35) = 3.51, p < .01, and more prohibition of physical assertion occurred at Time 1 than at Time 2, t (35) = 2.41, p < .05 (Table B6; Figure 17). As expected, parents' prohibition of physical assertion was not influenced by the sex of the recipient of the assertion, t (35) = .82, p > .05.

Figure 17

Proportion of Parent Prohibit to Girls' and Boys' Physical Assertion
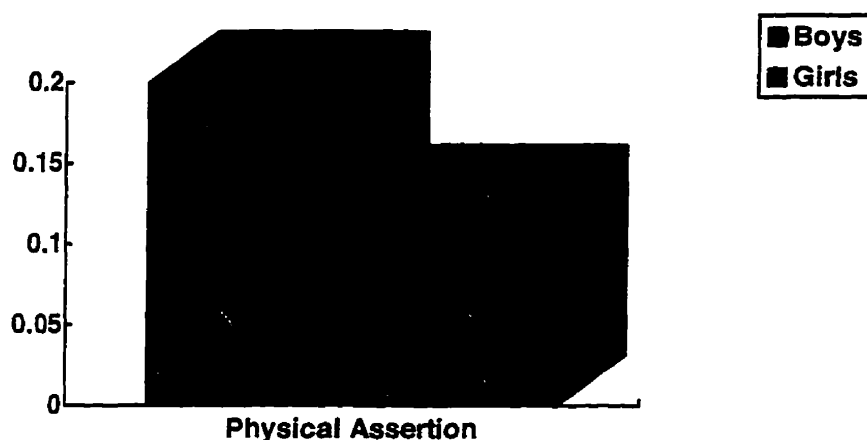
Parent Condone. Parents were not expected to differentiate between their daughters and sons in terms of how often they condoned physical assertion, and the sex of the recipient of the assertion was not expected to influence how often parents condoned physical assertion. Sibling status and Time effects were also not expected. As hypothesized, parents were equally likely to condone girls' and boys' physical assertion, t (35) = - 0.89, p > .05. Unexpectedly, however, more condone followed children's physical assertion when the partner was a boy than when a girl partner was involved, t (35) = 2.43, p < .05 (Table B7; Figure 18).

Figure 18

Proportion of Parent Condone to Children's Physical Assertion when Girl and Boy Partners
are Involved
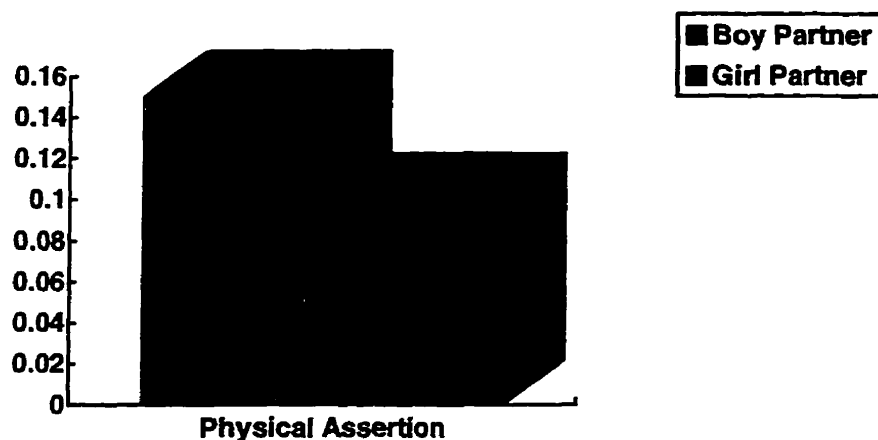
Parent Ignore. Parents were expected to ignore their daughters' physical assertion
more than their sons' physical assertion, but no Sex of Partner, Sibling Status, or Time
effects were expected. Contrary to the hypothesis, parents did not ignore their daughters'
physical assertion more than their sons' physical assertion, t (35) = 1.68, $p < .10$. As
expected, there was no Sex of Partner effect, t (35) = 1.26, $p > .05$, or any other significant
effects for this variable (Table B8).

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Parent No Response. It was expected that parents would show no response more often to girls' physical assertion than boys' physical assertion, but no Sex of Partner, Sibling Status, or Time effects were expected. As hypothesized, parents did not respond to girls' physical assertion more often than boys' physical assertion, t (35) = - 3.54, p < .01. However, in addition, parents were more likely to show no response to children's physical assertion when a girl, rather than a boy partner was involved, t (35) = - 3.43, p < .01 (Table B9; Figures 19 & 20).

Figure 19

Proportion of Parent No Response to Girls' and Boys' Physical Assertion

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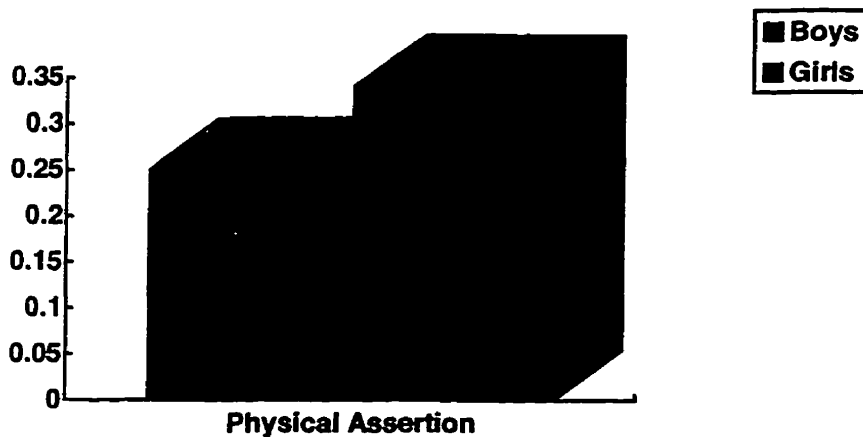
Figure 20

Proportion of Parent No Response to Children's Physical Assertion when Girl and Boy

Partners are Involved

Physical Assertion
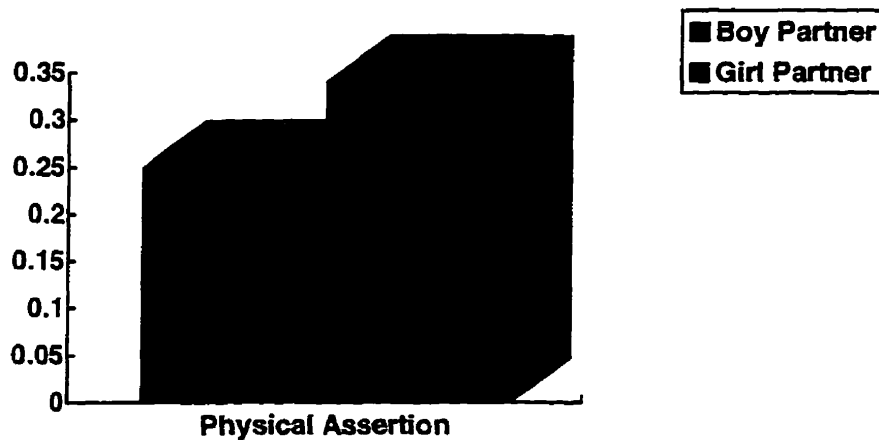
Children's Verbal Aggression

Parent Prohibit. It was hypothesized that parents would be more likely to prohibit

girls' verbal aggression than boys' verbal aggression, and that this response would be

stronger at Time 2 than Time 1. Parents were also expected to prohibit verbal aggression

more often when the victim was a girl. It was hypothesized that older children's verbal

aggression would be prohibited more than younger children's verbal aggression.

Additionally, parents were expected to prohibit verbal aggression more frequently at Time 2

than Time 1. However, there were no sex differences, ts (25) < .70, ps > .05, or any other

significant effects found for this variable (Table B10).

Parent Condone. It was hypothesized that parents would be more likely to condone

boys' verbal aggression than girls' verbal aggression. Parents were also expected to be more

likely to condone verbal aggression when the victim was a boy. No Sibling Status or Time main effects were expected. Contrary to the hypothesis, parents did not condone boys' verbal aggression more than girls' verbal aggression, t (25) = - 1.81, p < .10, and the trend was for parents to be more likely to condone girls' verbal aggression (Table B11). There were also two interaction effects with Sex of Partner; one with Sibling Status, t (25) = - 2.27, p < .05, and the other with Time, t (25) = 2.60, p < .05. Specifically, parents were more likely to condone their younger children's verbal aggression when the victim was a boy, whereas parents were equally likely to condone their older children's verbal aggression when the victim was a girl or a boy. Additionally, verbal aggression was more likely to be condoned at Time 1 when the victim was a boy, whereas it was slightly more likely to be condoned at Time 2 when the victim was a girl (Figure 21 & 22).

Figure 21

Proportion of Parent Condone to Older and Younger Children's Verbal Aggression when Girl and Boy Partners are Involved
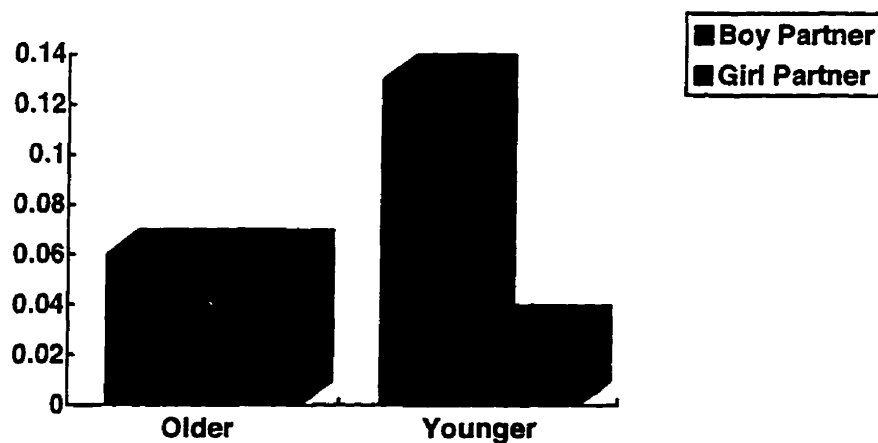
Figure 22

Proportion of Parent Condone to Children's Verbal Aggression when Girl and Boy Partners
are Involved at Time 1 and Time 2
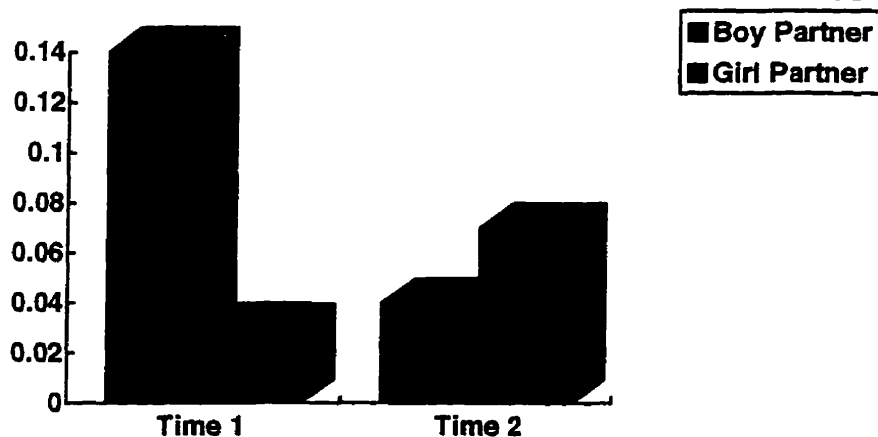
Parent Ignore. It was hypothesized that parents would be more likely to ignore boys'
verbal aggression than girls' verbal aggression, and that parents would be more likely to
ignore verbal aggression when the victim was a boy. Parents were not expected to
differentiate between their younger and older children in terms of how often they ignored
verbal aggression. Parents were also expected to be equally likely to ignore verbal
aggression at Time 1 and Time 2. There were no sex differences, ts (25) < 1.50, ps > .05, or
any other significant effects for this variable (Table B12).

Parent No Response. It was hypothesized that parents would be more likely to show
no response to boys' verbal aggression than girls' verbal aggression, and that parents would
be more likely to show no response to verbal aggression when the victim was a boy. Parents
were not expected to differentiate between their younger and older children in terms of how
often they did not respond to verbal aggression. Parents were also expected to be equally
likely to not respond to verbal aggression at Time 1 and Time 2. There were no sex

differences, $\underline{t}s$ (25) < - 1.20, $\underline{p}s$ > .05, or any other significant effects for this variable (Table B13).

Children's Verbal Assertion

Parent Prohibit. Parents were not expected to differentiate between their daughters and sons in how often they prohibited verbal assertion, and parents' rate of prohibition of verbal assertion was not expected to be influenced by the sex of the recipient of the assertion. Sibling Status and Time effects were also not expected. Parents did, however, prohibit boys' verbal assertion more than girls' verbal assertion, $\underline{t}$ (34) = 3.46, $\underline{p}$ < .01, and more prohibition of verbal assertion occurred at Time 1 than at Time 2, $\underline{t}$ (34) = 2.73, $\underline{p}$ < .01 (Table B14; Figure 23).

Figure 23

Proportion of Parent Prohibit to Girls' and Boys' Verbal Assertion
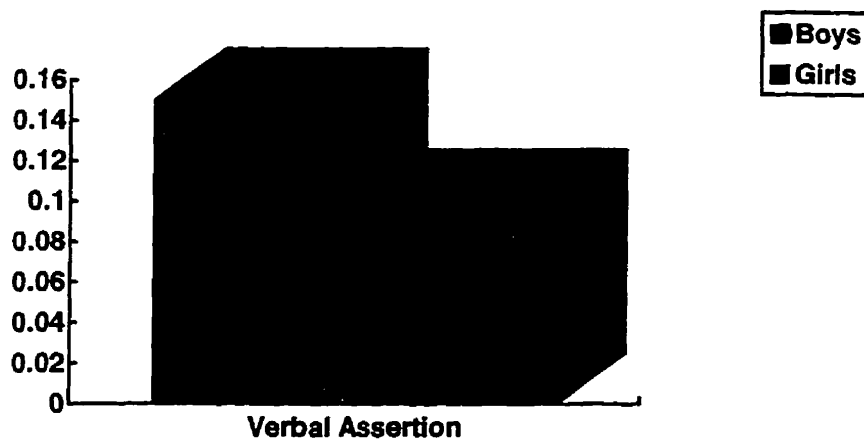
Parent Condone. Parents were not expected to differentiate between their daughters and sons in how often they condoned verbal assertion, and the sex of the recipient of the

assertion was not expected to influence how often parents condoned verbal assertion. Sibling status and Time effects were also not expected. As predicted, there was no Sex of Actor main effect, t (34) = 0.00, p > .05, but contrary to the hypothesis, more condone followed children's verbal assertion when the partner was a boy than when a girl partner was involved, t (34) = 4.64, p < .001 (Table B15; Figure 24). Also contrary to expectation, younger children's verbal assertion was more likely to be condoned than older children's verbal assertion, t (34) = - 3.18, p < .01, and children's verbal assertion was more likely to be condoned at Time 1 than at Time 2, t (34) = 3.20, p < .01. The Sibling Status and Time main effects were qualified by a two-way interaction, t (34) = - 4.13, p < .001, in which the difference between how often older and younger children's verbal assertion was condoned by parents became less over time. This effect was mainly attributable to a decline in how often younger children's verbal assertion was condoned from Time 1 to Time 2.

Figure 24

Proportion of Parent Condone to Children's Verbal Assertion when Girl and Boy Partners are Involved

Parent Ignore. Parents were expected to ignore their daughters' verbal assertion more than their sons' verbal assertion, but no Sex of Partner, Sibling Status, or Time effects were expected. However, parents ignored girls' and boys' verbal assertion equally often, t (34) = .18, p > .05. Also contrary to the hypothesis, parents were more likely to ignore older children's verbal assertion than younger children's verbal assertion, t (34) = 2.24, p < .05, and this main effect was qualified by a significant interaction with time, t (34) = 3.70, p < .001. At Time 1, parents were more likely to ignore older than younger children's verbal assertion, but at Time 2, parents showed a tendency to ignore their younger children's verbal assertion more than their older children's verbal assertion (Table B16).

Parent No Response. It was expected that parents would show no response proportionally more often to girls' verbal assertion than boys' verbal assertion, but no Sex of Partner, Sibling Status, or Time effects were expected. Parents did not, however, respond less often to girls' verbal assertion in comparison to boys' verbal assertion, t (34) = - 1.64, p < .10. Also contrary to the hypothesis was a Sex of Partner effect that showed that parents showed no response more often when the child receiving the verbal assertion was a girl than when a boy partner was involved, t (34) = - 2.32, p < .05 (Table B17). This main effect was qualified by a higher order interaction between Sex of Actor, Sex of Partner, and Time, t (34) = 2.27, p < .05. This complicated interaction effect showed that at Time 1 parents' lack of response to girls' verbal assertion was most prevalent when a girl partner was involved, whereas in Time 2 the sex of the partner did not play as significant a role in how often parents did not respond to girls' verbal assertion. On the other hand, the sex of the partner did not play a significant a role in how often parents did not respond to boys' verbal assertion at Time 1, but parents were more likely to show no response to boys' verbal assertion at Time 2 when a girl partner was involved (Figure 25).

Figure 25

Proportion of Parent No Response to Girls' and Boys' Verbal Assertion with Girl and Boy
Partners at Both Time Periods

Summary of Sex Differences in Parents' Responses to Children's Aggression and Self-assertion

Parents' prohibit response and failure to respond were the only parent reactions that
were influenced by the sex of the children who engaged in aggression or self-assertion.
Parents prohibited their sons' physical aggression, physical assertion, and verbal assertion
more than they prohibited the same behaviours in their daughters. Correspondingly, parents
showed no response to girls' physical aggression and physical assertion more often than
they did not respond to boys' physical aggression and assertion. Parents were also more
likely to show no response to physical aggression, physical assertion, and verbal assertion
when the recipient was a girl in comparison to when a boy partner was involved. For
physical aggression and verbal assertion, however, these Sex of Partner effects were
qualified by complicated interactions with Sex of Actor and Time. In terms of physical
aggression, in most cases no response was more frequent at both Time 1 and Time 2 when a
girl partner was involved. The main exception was at Time 1 when parent showed no

frequently to younger girls who were aggressing against an older brother. For verbal assertion, at Time 1 more parent no response occurred following girls' assertions to female partners, whereas at Time 2, more parent no response followed boys' assertions to male partners. Sex of Partner effects were also present for Condone; parents were more likely to condone children's physical and verbal assertion when the recipient of the assertion was a boy. Finally, for verbal aggression, Sex of Partner effects occurred only in interactions with Time and Sibling Status. Specifically, more parent condone was directed to younger children's verbal aggression towards boy partners, but older children's verbal aggression was more likely to be condoned when a girl partner was involved. Additionally, at Time 1, more condone followed verbal aggression directed to boy partners, whereas at Time 2, condone was more likely to follow verbal aggression directed to girl partners. For the most part, these results appear to reflect that parents are less concerned about aggression and self-assertion that involves girls in comparison to boys. Parents are less likely to prohibit girls' aggression and self-assertion than boys' aggression and self-assertion, and parents are less likely to respond when girls, in comparison to boys, instigate or are recipients of aggression and self-assertion. A summary of the parent responses to children's aggression and self-assertion that were influenced by the sex of the child actor or sex of the partner is provided in the following table (Table 3). Notation used in this table is defined in the Note following the table.

Table 3

Summary of Sex Differences in Parents' Responses to Children's Aggression
and Self-assertion

Parent Response	Sex of Actor	Sex of Partner	Sex of Actor Time 1 to 2	Interactions with Sex of Partner
Prohibit				
PA	$B > G^x$	n.s. ^{x}	n.s. ^{x}	----
PS	$B > G^x$	n.s. $^{\sqrt{}}$	----	----
VA	n.s. ^{x}	n.s. ^{x}	n.s. ^{x}	----
VS	$B > G^x$	n.s. $^{\sqrt{}}$	----	----
Condone				
PA	n.s. ^{x}	n.s. ^{x}	----	----
PS	n.s. $^{\sqrt{}}$	$B > G^x$	----	----
VA	n.s. ^{x}	n.s. ^{x}	----	$> Y$ with B^{px} $> O$ with G^p $T1 > B^p$ $T2 > G^p$
VS	n.s. $^{\sqrt{}}$	$B > G^x$	----	----

Continued....

Table 3 continued

Summary of Sex Differences in Parents' Responses to Children's Aggression
and Self-assertion

Parent Response	Sex of Actor	Sex of Partner	Sex of Actor Time 1 to 2	Interactions with Sex of Partner
Ignore				
PA	n.s. [x]	n.s. [x]	-----	-----
PS	n.s. [x]	n.s. [√]	----	-----
VA	n.s. [x]	n.s. [x]	----	-----
VS	n.s. [x]	n.s. [√]	-----	-----
No Response				
PA	G > B [x]	G > B [x]	T1: > OG with G^P [x] > YG with B ^{P} T2: > OB with G^P > YG with G^P	----
PS	G > B [√]	G > B [x]	-----	-----
VA	n.s. [x]	n.s. [x]	-----	-----
VS	n.s. [x]	G > B [x]	T1: > G with G^P [x] T2: > B with B ^{P}	-----

Note: [a] Physical Aggression = PA, Physical Assertion = PS, Verbal Aggression = VA, Verbal Assertion = VS
[b] Boy = B, Girl = G
[c] Older = O, Younger = Y
[d] Time 1 = T1, Time 2 = T2
[e] B ^{P}= Boy partner, G ^{P} = Girl Partner
[f] Predicted result= √, Non-predicted result= [x], Non-predicted non-result= -----

Predicting Sex Differences in Children's Aggression and Self-assertion

The analyses of children's physical and verbal aggression and self-assertion showed that there were sex differences in the frequency that children engaged in these behaviours, with the exception of verbal assertion. A similar pattern of sex differences was found for physical aggression and self-assertion. Specifically, for both physical aggression and physical self-assertion, there was an interaction between the Sex of Actor and Time variables in which boys showed higher levels of physical aggression and physical assertion at the first time period, but by the second time period boys and girls had become more similar due to a greater decline in boys' use of these behaviours. Parents' reactions to children's physical aggression and self-assertion also showed a similar pattern; parents were more likely to prohibit boys', and show no response to girls' physical aggression and self-assertion. It appears to be possible that parents made a greater effort to control the higher levels of aggression and assertion shown by their boys, and they were eventually able to have some success in controlling the higher level of hostile physical behaviour shown by boys at the second time period.

In the previous analyses, parents' responses and children's hostile physical behaviour were each examined in isolation from one another. Because both were related to child sex, it is also important to examine whether parents' responses play a role in the sex differences found in the children's physical aggression and assertion. By examining the simultaneous relationships among all three variables it is also possible to investigate whether parents' responses and child sex function as unique or redundant predictors of children's hostile physical behaviour.

In order to investigate this question physical aggression and self-assertion were combined to form an overall category of children's physical conflict behaviour. Combining physical aggression and physical self-assertion was justified for the following reasons. In terms of statistical power, combining these behaviours into one category would create a more stable variable given that more instances of the behaviours were included. As noted above, similar results were found for physical aggression and physical self-assertion, both in terms of the analyses of sex differences in the children's behaviour and parents' responses to these behaviours. Additionally, for older and younger children at both time periods, the

physical conflict behaviour variable was significantly correlated with both physical aggression (rs = .52 to .76, ps ≤ .001) and physical assertion (rs = .89 to .94, ps < .001). Physical aggression and physical assertion were also significantly correlated with each other (rs = .39 to .68, ps < .01). Each correlation is presented in Appendix D (Table D4). In addition, the same analyses that were used to examine sex differences in children's physical aggression and physical self-assertion in isolation as well as parents' responses to these behaviours were repeated with the physical conflict variable. For the most part, the results that were found for physical aggression and physical assertion in isolation were also found for the combined physical conflict variable.[1] In terms of sex differences in children's physical conflict, the most noteworthy similarity was the significant interaction that was found between Sex of Child and Time that showed that boys engaged in higher levels of physical conflict than girls at Time 1, but this difference was no longer present at Time 2, t (35) = 2.79, p < .02. Both girls' and boys' physical conflict declined over time, but boys showed a more dramatic drop (Figure 26). Means and standard deviations for this analysis are found in Table C1 in Appendix C.

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[1] As outlined in this section, physical aggression and physical assertion are correlated, and give similar results in terms of sex differences in children's behaviour and parents' responses. However, it does not necessarily follow that when they are combined to form an overall category of physical conflict, they would show similar predictive relations as when they are each examined in isolation. Thus, the regression analyses that were performed in order to examine the influence of parents' responses on the relation between children's physical conflict behaviour and child sex were also performed for physical aggression and physical assertion in isolation. The regression analyses of the physical conflict variable are reported in a later section. The significant effects that were found for physical conflict were also present in the separate regressions. If the corresponding effects in the separate physical aggression and physical assertion analyses were not significant, they were at least consistent with the physical conflict analyses, suggesting that the significant effects in the combined analyses were simply a result of the greater statistical power of these tests.

Figure 26

Frequency of Physical Conflict Behaviour for Girls and Boys at Both Time Periods
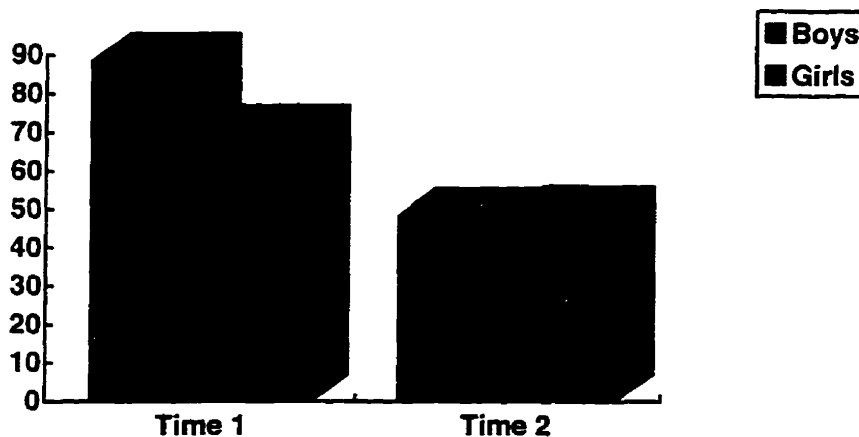
In terms of parents' responses, parents prohibited physical conflict behaviour more often for boys than for girls, t (35) = 3.54, p < .01, and showed no response more often to girls' than boys' physical conflict, t (35) = - 3.81, p < .001 (Figure 27, 28). These results replicated those found when parents' responses to physical aggression and physical assertion were examined in isolation. Means and standard deviations for the parent response analyses are found in Tables C2 to C5 in Appendix C.

Figure 27

Proportion of Parent Prohibit to Girls' and Boys' Physical Conflict Behaviour
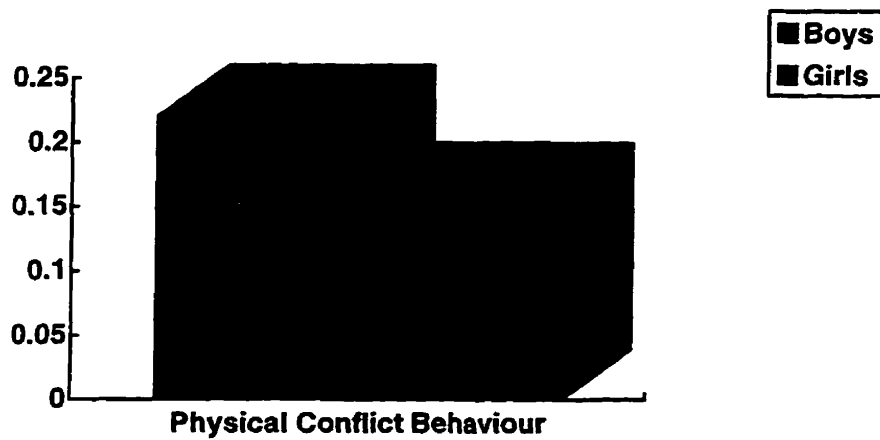
Figure 28

Proportion of Parent No Response to Girls' and Boys' Physical Conflict Behaviour

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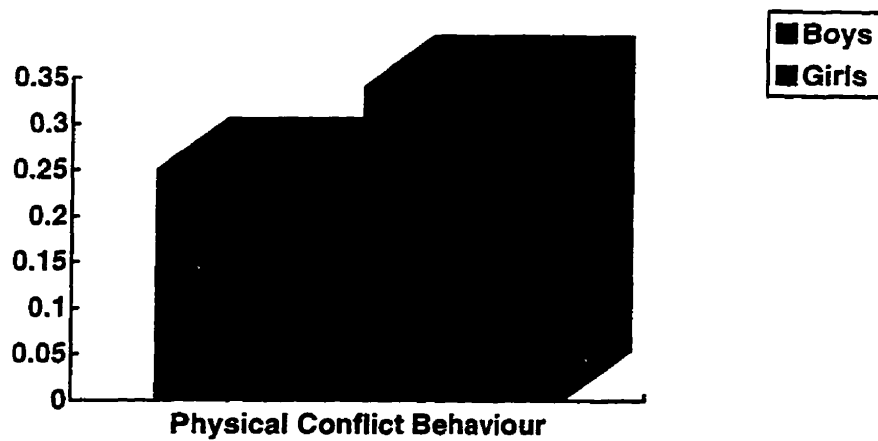
Additionally, parents showed no response more frequently to physical conflict when the recipient was a girl than when a boy partner was involved, t (35) = -3.73, $p < .001$ (Figure 29). This result was also found for parents' responses to both physical aggression and assertion when these behaviours were analyzed separately. Finally, parents condoned physical conflict more often when the recipient was a boy, t (35) = 3.83, $p < .001$ (Figure 30). This result was found for parents' responses to physical assertion in isolation but not physical aggression.

Figure 29

Proportion of Parent No Response to Children's Physical

Conflict Behaviour when Girl and Boy Partners are Involved

Figure 30

Proportion of Parent Condone to Children's Physical

Conflict Behaviour when Girl and Boy Partners are Involved

Physical Conflict Behaviour

■ Boy Partner
■ Girl Partner

**Parents' Responses and Child Sex as Predictors of Children's Physical Conflict
Behaviour**

In the following section the simultaneous contribution of parents' reactions and
child sex on variations in children's physical conflict behaviour is examined. Parents'
prohibit response and lack of response were the two reactions that were examined in order
to investigate this issue. Prohibit and No Response were selected because they were the two
parent reactions that were directed differentially to girls' and boys' physical conflict
behaviour. Specifically, parents were more likely to prohibit their boys', and show no
response to their girls', physical conflict behaviour. It is possible that how parents
responded to their children during sibling conflict played a role in the sex differences found
in children's physical conflict behaviour. The following analyses cannot give definitive
evidence of the direction of causality in relationships found between parents' reactions,
child sex, and children's physical conflict. However, results can provide somewhat stronger

support for the possibility that parents' reactions have an influence on children's physical conflict behaviour. Specifically, one way that parents' responses might relate to children's physical conflict behaviour and child sex is by acting as a mediator of the relationship between these two variables. This model can be tested by examining what happens to the relationship between children's physical conflict and child sex when parents' responses are held constant. If there is no relationship between children's physical conflict and child sex when the influence of parent response is controlled for, this result provides some evidence that parents' behaviour plays a mediating role in the relationship between child physical conflict and child sex. If the relationship persists between children's physical conflict and child sex, even when the influence of parent response is controlled for, this result provides some evidence that parents' behaviour does not mediate the relationship between child physical conflict and child sex.

Multiple regression analyses were used to examine whether parents' responses played a role in the sex differences that were found in children's physical conflict behaviour. The dependent variable in each regression analysis was the total amount of children's physical conflict behaviour. Child sex was a predictor in all analyses, and boys were coded as "0" and girls coded as "1". Parents' reactions were also a predictor in all of the regression analyses. In half of the regression analyses the parent reaction was Prohibit and in the other half of the analyses the parent reaction was No Response. Because of non-independence in the data, separate regression analyses were performed for older and younger children.

Regression analyses were performed that examined predictive relationships between parents' responses to children's physical conflict and child sex at Time 1 and children's physical conflict at Time 2. Four regression analyses were completed in total (e.g., Regression 1: parents' prohibit response and child sex at Time 1 as predictors of older children's physical conflict at Time 2, Regression 2: parents' no response and child sex at Time 1 as predictors of younger children's physical conflict at Time 2, etc.). Regression analyses were also completed that examined contemporanious relationships between parents' responses, child sex, and children's physical conflict. Separate regression analyses were performed for Time 1 and Time 2 data. Thus, eight contemporaneous regression analyses were completed in total (e.g., Regression 1: parents' prohibit response and child sex

as predictors of younger children's physical conflict at Time 1, Regression 2: parents' no response and child sex as predictors of older children's physical conflict at Time 2, etc.).

Each regression analysis showed the influence of child sex on children's physical conflict while controlling for parents' prohibit, or lack of response, as well as the impact of these parent responses on children's physical conflict while controlling for child sex. This latter effect is important because it controls for the possibility that parent responses and child behaviour are related only because they share a spurious linkage that is due to the influence of child sex on both variables. That is, parents' responses could be related to children's physical conflict not because of any causal relationship, but simply because child sex is a common influence on both of these variables. This explanation is tested by examining what happens to the relationship between parents' responses and children's physical conflict when child sex is held constant. If a relationship is found when the influence of child sex is controlled for, this result provides some evidence against the spurious linkage explanation.

The regression analyses that examined relationships between parents' responses to children's physical conflict and child sex at Time 1 and children's physical conflict at Time 2 showed no evidence that parent responses predicted variations in this behaviour at Time 2. Specifically, older children's physical conflict at Time 2 was not significantly predicted by either parents' prohibit response, $F (2, 36) = 1.32, p > .05$ (Beta = - .14, $t = -.87, p > .05$), or parents' no response, $F (2, 36) = 1.43, p > .05$ (Beta = .16, $t = .98, p > .05$). Similarly, younger children's physical conflict at Time 2 was not significantly predicted by either parents' prohibit response, $F (2, 36) = .61, p > .05$ (Beta = .03, $t = .19, p > .05$), or parents' no response, $F (2, 36) = .60, p > .05$ (Beta = .03, $t = .16, p > .05$).

Regression analyses that examined contemporaneous relationships between parents' responses to physical conflict, child sex, and children's physical conflict indicated that, for the most part, when the influence of parents' responses was held constant there continued to be a significant relationship between children's physical conflict behaviour and child sex. The standardized Beta coefficients for these regression analyses are presented in Table 4. The regression analyses showed no evidence for the mediational model. However, there was a noteworthy result which gave some evidence that parents' behaviour played a role in sex differences in older children's physical conflict at Time 2. Specifically, older children's

physical conflict at the second time period was significantly predicted by parents' prohibit response and child sex, F (2, 36) = 5.18, p < .02, R^2 = .22. Child sex accounted for a significant proportion of the variance in older children's physical conflict behaviour when parents' prohibit response was held constant, Beta = - .30, t = - 2.03, p = .05. Also, when child sex was controlled for, parents' prohibit response was a significant predictor of older children's physical conflict behaviour, Beta = - .43, t = - 2.83, p < .01. Because this relationship was found with child sex controlled, it is not due to a spurious linkage in which child sex functioned as a common cause of both variables. Thus, both child sex and parents' prohibit response accounted for a significant proportion of the variance in older children's physical conflict at Time 2. In summary, there was no evidence that parents' responses mediated the relationship between child sex and children's physical conflict. At the second time period, however, parents' contemporaneous responses did appear to have some influence, above and beyond child's sex, on older children's physical conflict.

The results of the preceding main analyses of sex differences in children's physical conflict and parents' responses to these behaviours in their girls and boys showed that parents were more likely to prohibit their boys' than their girls' physical conflict at both time periods, and boys showed higher levels of physical conflict than girls, but only at the first time period. By Time 2, boys' physical conflict had declined dramatically and became similar to the level displayed by girls. The above regression analysis, however, showed that at the second time period child sex predicted older children's physical conflict when parent responses were controlled for. When all of the above results are considered in combination, they lend support to the possibility that parents' responses acted to dampen the sex difference in children's physical conflict at Time 2. Specifically, parents' more frequent prohibit responses to boys' physical conflict appeared to be able to bring these behaviours more under control, at least for older boys, by the second time period. However, given the essentially correlational nature of these analyses, this causal explanation cannot be regarded as definitive.

Similar to the above result concerning parents' prohibit response, parents' lack of response was also a significant predictor of older children's physical conflict at Time 2 over and above the influence of child sex, F (2, 36) = 3.48, p < .05, R^2 = .12. Specifically, more

frequent parent No response was associated with higher levels of older children's physical conflict, Beta = .34, t = 2.20, p < .05 (Table 4).

Finally, there was an additional marginal result in the prediction of younger children's physical conflict behaviour from parents' prohibit response and child sex at Time 1, F (2, 36) = 3.66, p < .05, R^2 = .17. When the impact of parents' prohibit response was held constant, younger children's physical conflict was only marginally predicted by child sex, Beta = - .34, t = - 1.97, p = .06. Child sex predicted younger children's physical conflict when considered on its own, Beta = - .39, t = - 2.61, p < .02. Thus, when the degree to which parents' prohibit response to their younger children's physical conflict behaviour is taken into account, the sex difference in this variable declines slightly (Table 4).

Table 4

Multiple Regression Analyses to Predict Children's Physical Conflict Behaviour from

Child Sex and Parents' Prohibit Response or Parents' No Response

Predictor Variables	Time 1		Time 2	
	Older	Younger	Older	Younger
Regression with Prohibit & Child Sex				
Child Sex (prohibit held constant)	- .35*	- .34	- .30*	.17
Prohibit (child sex held constant)	- .07	.13	- .43**	- .03
Regression with No Response & Child Sex				
Child Sex (no response held constant)	- .34*	- .38*	- .26	.15
No Response (child sex held constant)	.12	- .04	.34*	.08

Note: [a] Standardized Beta Coefficients that are significant at the $p \leq .05$ level are indicated with * and those that are significant at the $p \leq .01$ level are indicated with * *

Parents were more likely to prohibit their boys', and not respond to their girls' physical conflict at both time periods. Boys, in turn, showed greater declines in their levels of physical conflict over time. The above regression analyses suggested that for older boys, parents' focus on prohibiting their physical conflict had an impact on reducing the frequency with which older boys used these behaviours by Time 2. It is important to also consider relationships between older and younger children's physical conflict, and how to account for

variations in younger children's physical conflict behaviour. Correlational analyses were performed in order to address this question. At both time periods, older and younger children's physical conflict were highly related, $r = .73$, $p < .001$ at Time 1, $r = .90$, $p < .001$ at Time 2. Following from the previous regression analyses, it was expected that there would be relationships between parents' responses and children's physical conflict at Time 2 only. Correlations between older and younger children's physical conflict and either parents' Prohibit response or parents' No response at both time periods are presented in Table 5. As predicted, both older and younger children's physical conflict was not related to parents' responses at Time 1. At Time 2, however, a different picture emerged. Older children's physical conflict behaviour was significantly related to parents' prohibit response, and the negative correlation indicates that more parental prohibition was associated with less physical conflict by older children. There was no significant relationship between older children's physical conflict and parents' lack of response. Interestingly, younger children's physical conflict behaviour was not related to either parents' prohibit response, or parents' lack of response to them. However, younger children's physical conflict behaviour was highly related to parents' prohibitions of *older* children's physical conflict at Time 2. Thus, parents' prohibit response following older children's physical conflict at Time 2 was associated with lower levels of younger children's physical conflict, but parents' direct prohibition of younger children's physical conflict was not related to variations in this behaviour (Table 5). Thus, parents appear to influence the level of their younger children's physical conflict by controlling the physical conflict behaviour of their older children.

Table 5

Bivariate Correlations Between Older and Younger Children's Physical Conflict

Behaviour, Parents' Prohibit Response, and Parents' No Response

Parent Response	Time 1		Time 2	
	Older	Younger	Older	Younger
Prohibit to Older	.004	- .05	- .37*	- .41**
Prohibit to Younger	.09	.28	- .21	- .07
No Response to Older	.08	- .02	.31	.24
No Response to Younger	- .06	- .21	.24	.13

Note: ^{a} Pearson r correlations that are significant at the $p \leq .05$ level are indicated with *
and those that are significant at the $p \leq .01$ level are indicated with * *

The interesting pattern of concurrent relationships that emerged from the
correlational analyses led to further questions concerning influences on children's physical
conflict behaviour over time. From a previous study that focussed specifically on the
development of physical aggression in the same group of children, Martin and Ross (1995)
found that there was a strong relationship between older children's physical aggression at the
first time period and younger children's aggression at the second time period. Younger
children's physical aggression was predicted by the level of aggression of their older siblings
at Time 1, and not from their own earlier aggression. On the other hand, older children's
aggression was highly stable over time, and younger children's prior physical aggression
contributed negatively to the subsequent aggression of their older siblings. Similarly, in the
present study, the correlation between older children's physical conflict at the first time
period and younger children's physical conflict at the second time period was significant ($r =$
.38, $p < .05$), but younger children's physical conflict was not stable over time ($r = .13$, $p >$

.05). These results suggested that older children's physical conflict may be an influential determinant of variations in the level of younger children's physical conflict. Indeed, regression analyses showed that older children's physical conflict at the second time period could be predicted both by older and younger children's physical conflict at the first time period, F (2, 36) = 8.34, $p < .001$, $R^2 = .32$. The relationship with younger children's physical behaviour was negative, Beta = - .57, $t = - 2.87$, $p < .01$, suggesting that the less physical conflict the younger sibling engaged in at the first time period, the more physical conflict was used by the older sibling at the second time period. Older children's physical conflict at Time 1 was positively related to their own physical conflict at Time 2, Beta = .82, $t = 4.08$, $p < .001$. On the other hand, younger children's physical conflict could only be predicted by levels of older children's physical conflict at the first time period, F (2, 36) = 4.29, $p < .05$, $R^2 = .19$. Specifically, younger children who engaged in higher levels of physical conflict at the second time period had older siblings who used physical conflict frequently at the first time period, Beta = .61, $t = 2.81$, $p < .01$. Younger children's level of physical conflict at Time 1 was not related to their own physical conflict at Time 2, Beta = - .32, $t = - 1.46$, $p > .05$.

DISCUSSION

Physical and verbal forms of children's aggression and self-assertion were distinguished and examined separately in this study. In terms of sex differences in children's aggression and self-assertion, and parents' responses to these behaviours in their daughters and sons, stronger and more pervasive effects were both predicted and found for physical aggression and physical assertion than for the verbal forms of these behaviours. Additionally, the major findings were very similar for physical aggression and assertion, and interesting relationships were revealed between sex differences in children's use of these behaviours and parents' reactions. Since the major findings for verbal aggression and self-assertion were fewer in number and relatively more straightforward than those found for the physical behaviours, verbal aggression and assertion are presented first in the discussion section of this paper. Next, the more extensive and complex findings regarding physical aggression and self-assertion are discussed.

Are Girls more Verbally Aggressive than Boys During Sibling Conflict?

For each category of verbal aggression, there was an increase over time in its frequency of occurrence, and older children engaged in more verbal aggression than their younger siblings. These results were expected, given children's increasing verbal abilities as they grow older. It has been argued by several investigators that girls tend to use verbal aggression rather than physical aggression (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Cairns, Cairns, Neckerman, Gariépy, & Ferguson, 1989; Ledingham, 1991; Loeber & Hay, 1997). However, studies have found inconsistent results in terms of whether girls or boys engage in higher rates of direct verbal aggression (e.g., Archer et al., 1988; Bjorkqvist et al., 1992; Lagerspetz, Bjorkqvist, & Peltonen, 1988; Maccoby & Jacklin, 1987; Miller et al., 1986). Thus, in the present study the hypothesis that girls are more verbally aggressive than boys was tested. Only one sex difference was found in children's verbal aggression and it was not in the predicted direction. Boys insulted their siblings more often than did girls, but girls and boys were equally likely to threaten and nag during sibling conflict.

It has been argued that an important factor in distinguishing girls' and boys' aggression is not only whether it is verbal or physical, but also whether it is indirect or direct (Bjorkqvist et al., 1992; Cairns et al., 1989; Crick, 1995; Crick & Grotpeter, 1995; Lagerspetz et al., 1988). Girls are consistently found to show higher levels of relational aggression than boys. This aggression typically has the goal of harming other children's peer relationships, and is usually expressed in the form of indirect verbal aggression (Crick, 1995; 1997; Crick & Grotpeter, 1995). It is possible that girls are less comfortable directly confronting their victim than they are when distance is created through use of indirect means (Lagerspetz et al., 1988). Sex differences may not have occurred in this study because only direct verbal aggression between siblings was examined. The form of data collection may also be an important consideration. Bjorkqvist and colleagues found equally high rates of direct verbal aggression in girls and boys, and these results were based on peer nomination and self-report techniques as opposed to observational methods (e.g., Bjorkqvist et al., 1992; Lagerspetz et al., 1988). One exception is a study by Archer and colleagues (1988) in which school-aged children were observed in the classroom and girls were found to engage in higher levels of verbal aggression than boys. Additionally, studies that have examined indirect or relational aggression and found that girls engage in more of this behaviour than boys used peer-nomination or interview techniques (e.g., Cairns et al., 1989; Crick, 1995; Crick & Grotpeter, 1995). On the other hand, in studies based on observational data of peer conflicts, boys have been found to engage in more verbal threats, harassment, and taunting than girls (Koyama & Smith, 1991; Maccoby & Jacklin, 1987; Miller et al., 1986). This result partially fits with the findings of the current study; boys insulted more often than girls, but there were no differences between girls and boys in the amount of threatening or nagging that they engaged in. There is some evidence from observational studies that girls are more likely than boys to refrain from use of physical aggression, and mask their anger when in the presence of adults (Loeber and Hay, 1997; Pepler & Craig, 1995; Underwood et al., 1992). It is possible that girls are also less likely than boys to engage in verbal aggression when they know that they are being observed.

Another important factor to consider in understanding the results of this study is the age of the children. In studies that have found relatively high rates of verbal aggression in

girls (direct and indirect), the children were between the ages of 8 and 15 years, whereas in the current study the children were between 2 and 6 years of age. Verbal aggression becomes more frequent throughout the school years as children's verbal skills increase and their use of physical aggression decreases (Bjorkqvist et al., 1992; Rubin, Bukowski, & Parker, in press; Zahn-Waxler et al., 1990). It is possible that it is also at this time that girls' rate of verbal aggression increases relative to that of boys. In addition, studies that have found higher rates of verbal aggression in girls than boys assessed verbal aggression between peers as opposed to in sibling pairs. In adolescence, sibling conflicts tend to concern control over resources, whereas friends quarrel over violations of trust and friendship (Vandell & Bailey, 1992). Verbal aggression may be more common for girls in the midst of peer conflicts than during sibling conflicts because girls are more concerned and upset about the issues that tend to underlie peer conflicts.

Parents' Responses to Children's Verbal Aggression

Overall, although parents were not quite as concerned about verbal aggression as they were about physical aggression, parents had little tolerance for verbal aggression. Parents were more likely to prohibit verbal aggression than verbal assertion, and less likely to condone verbal aggression than physical and verbal assertion. In terms of sex differences, had parents been more likely to prohibit girls' verbal aggression than boys' verbal aggression this finding would have contributed to the interpretation of why girls' rate of verbal aggression was not higher than boys' rate. However, just as there were few sex differences in children's verbal aggression, parents reacted similarly to the verbal aggression of their daughters and sons. They were equally likely to prohibit, condone, ignore, and show no response to all forms of girls' and boys' verbal aggression. This result was surprising because parents have been found to be less tolerant of girls' than boys' anger expression and physical aggression (Brody, 1985; Fivush, 1991; Mills & Rubin, 1990; Power & Parke, 1986; Zahn-Waxler et al., 1991), thus, it was expected that they would have a lower tolerance for verbal aggression in girls than in boys.

Children's Verbal Assertion

In all categories of verbal assertion, older children's rate surpassed that of younger children, and the verbal reasoning categories were used more often at the second time period than the first time period. When considering all the aggression and self-assertion categories, verbal assertion and aggression tended to increase over time and physical assertion and aggression decreased over time. Thus, presumably due to the children' increasing verbal skills, their conflicts became more verbal and less physical over time. This finding corresponds with a general trend in children's aggressive behaviour in which physical aggression is gradually replaced by more modulated, verbal, and psychological forms of aggression (Bjorkqvist et al., 1992; Rubin et al., in press; Zahn-Waxler et al., 1990). The increased use of verbal reasoning over time is also consistent with the pattern in peer relations which shows decreasing aggression and increasing interpersonal skills from early to middle childhood (Loeber & Hay, 1997).

Characterizing the Nature of Girls' and Boys' Verbal Assertion

Contrary to expectation, there were no differences between girls and boys in the frequency that they used any of the verbal assertion categories during sibling conflict. Other research has found that during peer conflict, boys are more likely to use commands, whereas girls make an effort to mitigate the conflict through such means as clarification and compromise (Maccoby & Jacklin, 1987; Miller et al., 1986). In the present study, the simple command category was used very frequently and it was broad in scope, ranging from weak commands with little elaboration (e.g., "stop that", "don't") to more intense, forceful demands. However, weak commands with little elaboration accounted for the majority of instances of this category. It is possible that a narrower category that focussed on the more forceful commands might have resulted in boys' greater use of this category of verbal assertion in comparison to girls.

It was also surprising that girls did not engage in more reasoning about feelings than boys. Already at 2 years of age, girls have been found to engage in more feeling state talk within their families than boys (Dunn et al., 1987), and during peer conflict 5- and 7-year-old girls were much more likely to clarify their opponents' feelings than were boys (Miller et al.,

1986). In addition, there is considerable evidence that girls are socialized to be more relationship-focussed than boys, and they are also more likely to respond empathically to the distress of others (Zahn-Waxler et al., 1991; Zahn-Waxler & Robinson, 1995). It is noteworthy that in Dunn's study that found higher rates of feeling talk in 2-year-old girls than same-aged boys, a substantial proportion of the feeling talk occurred between mothers and their children as opposed to sibling pairs (Dunn et al., 1987). Also, mothers initiated conversations about feelings twice as often with girls than with boys. When children's initiations were compared, girls and boys started conversations about feelings equally frequently. Thus, it may be that girls talked about feelings more than boys because their mothers were more likely to talk about feelings with their daughters than with their sons. It is also possible that mothers found their girls more responsive to feeling talk than their boys, or that mothers believed that their daughters were more interested than their sons in discussions about feelings. However, the reasons why these mothers differentiated between girls and boys in initiating feeling state talk remains to be investigated.

A further important point to consider when interpreting the lack of sex difference in reasoning about feelings was the infrequency with which this category was used between siblings in the present study. Similarly, simple assertions have been found to be common in the conflicts of preschool-age siblings, whereas preschool-aged peers engaged in more elaborated arguments composed of rationales and justifications during their conflicts (Vandell & Bailey, 1992). Thus, it might be that girls are only more likely to engage in feeling state talk than boys when in an environment that is conducive to it; for example, with mothers or female peer groups who encourage such conversation.

Indirect assertion is a relatively more polite and subtle form of verbal assertion, in which children asserted themselves in the form of a question (e.g., "why don't we do it this way?"; "How about if I try it now?"), and through assertions with an "ok" tag or that included "please" (e.g., "Let's do it this way, ok"; "Please, please, try them on"). Given that indirect assertion is less forceful, more polite, and seems to be more attuned to the feelings of the recipient, it was expected that girls would use indirect assertion more often than boys. Also, indirect assertion shares characteristics with what other investigators have labeled conflict mitigation, a type of speech that is found to be more prevalent in girls than boys

(Miller et al., 1986; Sheldon, 1992). In this type of speech, assertions are modified so that they do not create offense, but rather maintain interpersonal harmony (e.g., compromise, explanation, question tags, use of inclusive terms). In other words, girls' assertions seem to have two goals; they are striving to maintain social relationships while at the same time working towards achieving individual objectives (Sheldon, 1992). Surprisingly, however, girls and boys did not differ in their overall use of indirect assertion. There were sex differences that related to the recipient of the indirect assertion, but the particular result is difficult to interpret. Specifically, at the first time period indirect assertion was used more often by children when a girl was the recipient, whereas at the second time period there was very little difference, although indirect assertion was slightly more frequent when a boy was the recipient. The young age of the children in the present study might help explain the lack of sex differences between girls and boys. It is possible that indirect assertion, which in some cases demands more sophisticated verbal skills than other forms of verbal assertion, might become relatively more prevalent in the speech of older girls than older boys.

Parents' Responses to Children's Verbal Assertion

Although there were no sex differences in children's verbal assertion, in some cases parents' responses differed depending on whether they were responding to their daughters' or their sons' verbal assertion. Parents were more likely to prohibit boys' than girls' verbal assertion, and they condoned verbal assertion more often when the recipient of the assertion was a boy than when a girl partner was involved. Verbal assertion is a commonly used and quite mild conflict strategy, and it was not expected that parents would be less tolerant of boys' than girls' verbal assertion. Additionally, verbal assertion is not a frequently studied anger expression, thus, there is little other research that can be referred to in order to gain understanding of this result. Nonetheless, this finding does correspond with the other results of this study that pertain to parents' prohibit response. Parents were more likely to prohibit boys' than girls' physical aggression, physical assertion, and verbal assertion. Only with verbal aggression did parents prohibit their girls and boys equally frequently. Parents were also more likely to show no response to girls' than to boys' verbal assertion, but only at the first time period. The presence of a stronger effect had been hypothesized; parents were

expected to be more likely to both ignore and show no response to girls' than boys' verbal assertion at both time periods. In general, females are more likely than males to have their speech interrupted (Bronstein, 1988). Parents have also been found to be more likely to over-ride and negate girls' than boys' verbal assertions (Kerig et al., 1993), and interrupt the speech of their daughters more than their sons (Gleason & Grief, 1983). The study by Kerig and her colleagues was similar to the present study because verbal assertions were examined in children that were a similar age to the subjects in the present study, However, a major difference in Kerig's study was the target of the assertion. Parents' responses to the assertions directed at them by their first-born children were examined as opposed to parents' responses to verbal assertions between siblings (Kerig et al., 1993).

Children's Physical Aggression

Physical aggression was more prevalent among older siblings than their younger counterparts, and overall physical aggression levels declined from the first to the second observation period. It is sensible that younger children were less inclined to use physical aggression than their older siblings; younger children would have more to fear from aggressing against older, larger, more powerful siblings than the reverse scenario. This finding also corresponds with the results of a longitudinal study that found younger siblings at ages 18, 36, and 60 months showed lower levels of aggression than their older counterparts at each time period (Abramovitch, Corter, Pepler, & Stanhope, 1986). Given that the age range of the children in this study spanned from 2 to 6 years of age, the decline over time in physical aggression was also not surprising. It has been argued that preschoolers are the most aggressive group of humans, as long as aggression includes behaviours such as hitting and biting. It is only when delinquent acts and serious violence are considered that another group, specifically adolescents, is more aggressive (Coie & Dodge, 1997). More specifically, a study that used parent diaries to examine children's angry outbursts and aggression found that these behaviours peaked at 2 years of age and then decreased (Goodenough, 1931), epidemiological studies have shown high rates of aggression in 3-year-olds and declines thereafter, and the general trend is for physical aggression to become less frequent as children grow older (Cairns, 1979; Coie & Dodge, 1997; Loeber &

Hay, 1997; Zahn-Waxler et al., 1990). It is also developmentally appropriate that physical aggression levels during conflict were found to decline over time. Older children are able to make use of more sophisticated conflict strategies (e.g., verbal reasoning), and thus, the less refined physical strategies become less common over time (Cairns, 1979; Loeber & Hay, 1997).

Are Boys more Physically Aggressive than Girls During Sibling Conflict?

Following from past research that indicates that boys consistently show more overt aggression than girls in general as well as during peer conflict (Cohn, 1991; Crick, 1997; Maccoby & Jacklin, 1974,1987; Miller et al., 1986; Parke & Slaby, 1983), it was expected that in the context of sibling conflict, boys would also be more physically aggressive than girls. Physical aggression was the child behaviour that showed the clearest differences between boys and girls in the present study, and indeed, boys were more physically aggressive than girls. This finding was robust, as it held for overall physical aggression, as well as when physical aggression was further differentiated into mild and severe categories. Boys' higher rate of physical aggression was strongest at the first time period when the younger children were approximately 2½ years of age and the older children approximately 4½ years of age. It is argued that sex differences favouring higher aggression in males become marked between 3 and 6 years of age (Loeber & Hay, 1997). However, some studies have found this sex difference before 3 years of age. For example, 2-year-old boys showed higher levels of atypical, dysregulated aggression than same-aged girls during peer interaction (Zahn-Waxler et al., 1990), and in peer groups of 1- and 2-year-old children, those with a majority of boys showed more conflict and use of personal force than groups with a majority of girls (Caplan et al., 1991). Also, Smetana (1989) found that at 3 years of age, a sex difference showing that boys engaged in considerably more moral transgressions (e.g., physical aggression and object conflicts) than girls was already present. Thus, it is not surprising that 2½ and 4½-year-old boys in the present study were more physically aggressive than their same-aged female siblings.

Loeber and Hay (1997) comment that there has been little research in the area of sex differences in the decline of aggression, however, they suggest that "it seems probable that

girls during the preschool period outgrow aggression more speedily than boys" (p. 388). In concurrence with this view and following from the limited research that has been done in this area (e.g., Goodenough, 1931; Smetana, 1989), it was expected that girls' use of physical aggression would drop more dramatically than that of boys from the first to second observation period, resulting in boys' and girls' physical aggression levels becoming less similar over time. In actual fact, for overall and severe categories of physical aggression, the frequency of girls' and boys' physical aggression became more similar over time. This effect was attributable to a greater decline in boys', and more stability in girls' physical aggression over time. Again, the characteristics of the children's relationship status in the present study may be a factor to consider in gaining an understanding of the discrepancy between the results of this study and other research that has found a dramatic drop in young girls' physical aggression. The subjects in the present study were sibling pairs that were no more than two years apart in age, whereas in other studies either toddler-peer pairs (Smetana, 1989), or a mixture of children, some with and some without siblings were studied (e.g., Goodenough, 1931). It is likely that the difference between sibling and peer relationships is an important factor to consider in understanding the discrepant findings between this study and past research. Parents' behaviour also appears to play a role in the pattern of sex differences found in this study. The influence of these factors will be more fully examined in relation to both physical aggression and physical assertion in a later section.

It was expected that partner effects would be present in which siblings would exert an influence on variations in children's aggressive and assertive behaviour. For example, children would act differently depending on if their sibling was a girl or a boy. Boys' peer groups tend to engage in more aggressive play than girls' peer groups, and it has been suggested that this difference may be attributable to the differing conduct rules surrounding the acceptability of aggressive behaviour in boys' and girls' peer groups (Maccoby, 1986). Similarly, it was thought that a reciprocity effect might occur in sibling pairs in which the presence of a more aggressive boy partner would be more likely to encourage physical aggression than would the presence of a girl partner. Indeed, strong relations are found between behaviours given and received among children, and specifically, aggressive behaviour has been found to be reciprocal (Cairns, 1979; Ross, Cheyne & Lollis, 1988). For

example, Archer and colleagues (1988) found that giving and receiving aggression were correlated, and boys both gave and received more physical aggression than girls. An additional consideration is that children expect more parent disapproval and more victim suffering when a girl is the target of peer aggression than when a boy victim is involved (Perry et al., 1989).

Aggression was expected to be particularly high in boy-boy sibling pairs. Other researchers have talked about this reciprocity effect in terms of an aggression-begets-aggression norm in which there is a strong prohibition against physical assaults by boys toward girls, but not toward boys (Cairns et al., 1989). In an observational study of preschool-aged children, male siblings were found to engage in more agonistic behaviour than any other sibling pairing (Brody et al., 1985). Also, Hetherington (1988) found that when the target sibling was 4, 6, and 10 years of age, the rate of parent-reported and observed aversive behaviour was higher in any sibling pairing involving a boy than in girl-girl pairs. On the other hand, in a longitudinal study that focussed on young children at the ages of 18, 36, and 60 months and their older siblings, few effects that depended on the sex composition of the dyad were found (Abramovitch et al., 1986). In the present study, the sex of the aggressors' interaction partner exerted only a minor influence on levels of physical aggression. Younger children showed more mild physical aggression when their interaction partner was a boy, but older children were more aggressive with girl partners. It can be argued that this situation is similar to a bully-victim relationship, in which bullies selectively direct their attacks toward a minority of peers who consistently serve as victims (Perry, Perry, & Kennedy, 1992). Specifically, older children tend to bully "weaker" victims (e.g., younger, female) and when older children are male, this situation may create an atmosphere in which younger children are forced to be more aggressive in order to defend themselves from a stronger, more aggressive sibling.

Two different influences on the level of physical aggression displayed by older and younger children are apparent in the interaction discussed above between the age of the sibling and the sex of the interaction partner. First, there is evidence for an aggression-begets-aggression norm in the finding that younger children are more aggressive when paired with a relatively aggressive older, male sibling. Second, an opposite mechanism

appears to also be at work in which older children are more aggressive when they are paired with a relatively less aggressive, female, younger sibling. Interestingly, evidence for these two opposing mechanisms were also revealed in regression analyses that examined relationships between older and younger children's physical conflict behaviour (physical aggression and physical assertion) at both time periods. The aggression-begets-aggression norm is suggested by the regression analyses of older children's physical conflict on levels of this behaviour in younger children. Specifically, older children who showed relatively high levels of physical conflict at the first time period had younger siblings that engaged in more physical conflict at the second time period. Likewise, older children who showed relatively less physical aggression and assertion at the first time period had younger siblings who showed low levels of physical conflict at the second time period. On the other hand, the opposite mechanism appears to be at work when younger children's influence on older children's level of physical conflict is examined. Younger children who showed high levels of physical conflict at the first time period had older siblings who engaged in relatively less physical conflict at Time 2, and younger children who engaged in relatively less physical conflict at Time 1 had older siblings who were more physical at the second time period. This second mechanism would produce the opposite of an aggression-begets-aggression effect, and may be responsible for limiting the simple and expected sex of partner effects. Moreover, it is likely that this process occurs more often in sibling than peer contexts. In peer group situations, evenly matched aggressive children often fight with one another. Alternately, relatively aggressive, physically stronger children (bullies) seek out less aggressive, weaker peers to serve as victims (Perry et al., 1992). However, the option of selecting a weaker opponent is not available to children in a sibling relationship. Thus, the processes through which dyadic aggression develops must take into account both the relative power of, and the freedom to associate or dissociate oneself from, potential aggressors or potential victims. These two structural characteristics differ when peers as opposed to siblings are conflict partners.

Children's Physical Assertion

The overall level of physical assertion decreased from the first time period to the second time period. As with physical aggression, this decline was expected because of children's increasing ability to make use of verbal conflict strategies over time. Younger children engaged in more mild physical assertion and property damage than older children, whereas older children engaged in more physical contact and grabbing than did younger children. Physical contact is the category of severe physical assertion that is the most similar to physical aggression in terms of the target of the assertion (e.g., person vs. object) and the form that the action takes. As with physical aggression, it is not surprising that older, larger, and typically more powerful siblings would be more likely to engage in physical actions that involved forceful body contact with their sibling than would younger children. Consistent with this argument, younger children engaged in more property damage than their older siblings. It may be safer for younger children to show physical hostility indirectly in an assertion against an object rather than directly against the person of an older, stronger sibling. Although both property damage and physical aggression may induce angry retaliation in older siblings, it is more likely that a direct physical attack would result in a reciprocal act of aggression by older siblings, which could have quite negative consequences for their younger, smaller counterparts.

Characterizing the Nature of Girls' and Boys' Physical Assertion

As expected there were no overall sex differences in the milder, more socially appropriate categories of physical assertion. There were, however, differences between girls and boys that depended on the time period. Boys showed slightly higher levels of overall and mild physical assertion at the first time period, whereas at the second time period girls showed marginally higher levels than boys. Property damage was the only category of physical assertion that showed an overall difference between girls and boys, and it was boys who engaged in more of this activity. However, similar to physical aggression and mild physical assertion, this effect was strongest at the first time period. At Time 1, both older and younger boys showed higher rates of property damage than older and younger girls. Girls' use of property damage did not change substantially over time, and older boys

continued to engage in more property damage than older girls at the second time period. However, the rate for younger boys substantially decreased over time, resulting in more overall similarity between the frequency that girls and boys engaged in property damage at the second time period. In the same sample of children, older siblings were found to tattle to their parents relatively frequently about younger children's property damage in comparison to other transgressions (Den Bak & Ross, 1996). The focus of older children's tattling suggests that they were upset about their younger sibling's property damage, and it is likely that this was particularly true for younger brothers given how frequently they engaged in this activity. It is possible that the older children's tattling helped to bring younger boys' property damage under control and played a role in the diminished sex difference for property damage at the second time period.

Boys have been found to use more physical force than girls during peer conflict (Miller et al., 1986); thus, in the present study it was predicted that boys would show more physical contact than girls during sibling conflict. There were, however, no sex differences found in the frequency of children's use of this behaviour. It is possible that physical actions need to be more forceful or hostile than were the behaviours categorized as physical contact (e.g., minor pushing, pulling an arm) in the present study in order to show sex differences in the direction of greater use by boys than girls. Additionally, boys and girls were equally likely to grab objects from their siblings, but girls were more likely than boys to have siblings attempt to grab objects from them. Grabbing objects, particular desired toys, from siblings is a common behaviour, and again, it is possible that it is not a hostile enough physical behaviour to differentiate between girls and boys. Girls may have had siblings attempt to grab objects from them more often than boys due to the perception that girls may be less likely to withstand the assault on the desired object. The results do not show, however, that girls were more likely to have objects successfully taken from them, only that more attempts were made on girls than boys.

Parents' Responses to their Girls' and Boys' Physical Aggression and Assertion

Parents were more likely to prohibit their sons' physical aggression and assertion than the same behaviours in their daughters, and they showed no response to their daughters'

physical aggression and assertion more often than to the same behaviours in their sons. Additionally, when the recipient of physical aggression and assertion was a girl, parents were more likely to show no response than when a boy victim was involved. These results were unexpected given that the research literature shows considerable support for parents' greater tolerance of physical aggression and anger expression in boys than in girls (Brody, 1985; Lewis & Michalson, 1983; Malatesta & Haviland, 1982; Mills & Rubin, 1990; Power & Parke, 1986; Zahn-Waxler et al., 1991). Society in general also seems to share the view that physical aggression is more acceptable in boys than girls (e.g., "boys will be boys"). Why then, did parents' show more concern about their boys' than their girls' physical conflict behaviour? Boys engaged in considerably higher levels of physical aggression and assertion at the first time period than girls. Thus, parents appeared to be influenced by boys' higher rate of these physical behaviours and responded accordingly. Parents likely viewed their sons as more problematic than their daughters, and thus devoted more energy to attempting to control their sons' physical aggression and assertion. Also, in a situation of sibling aggression as opposed to aggression between peers, parents are reacting to aggression that is directed against one of their own children. Thus, parents might be less accepting of high levels of aggression in their sons when their own children instead of peers serve as victims. Other investigators have found similar evidence that mothers were more controlling of their boys' than their girls' aggression. Smetana (1989) found that mothers responded to their 2-year-old sons' physical aggression and object struggles with peers with attempts to maintain social control (e.g. commands) whereas with their 2-year-old daughters they focussed on reasoning about the consequences of the act on others. It was suggested that the social control strategies that mothers used with their sons were more punitive than the strategies they used with girls (Smetana, 1989). Kuczynski (1984) also found that mothers who were requested to get their children to perform a task used power assertion more frequently with boys than with girls. Kendrick and Dunn (1983) found that mothers were more consistent in their responses to boys' than girls' sibling aggression over the course of their short-term longitudinal study. The authors interpreted these results as showing that mothers may have more well-defined attitudes concerning boys' aggression than girls' aggression. Mothers may be certain about the level of aggression that they will tolerate in their boys, but have less

clear standards for their girls' aggression. Thus, they intervene consistently with their boys from an early stage, but respond more erratically to their girls' aggression (Kendrick & Dunn, 1983).

Comparing Physical Aggression and Physical Assertion

One goal of this study was to investigate children's behaviours during sibling conflict that differed in terms of how regulated and socially appropriate they were, and to compare these behaviours in terms of sex differences in their expression and how parents' reacted to them. In comparison to physical assertion, physical aggression was viewed as a less regulated, and socially appropriate behaviour. Additionally, in physical aggression it was argued that the focus is typically on harming a person, and this goal tends to be carried out with an intense, hostile physical action. With physical assertion the goal is more to control or resist as opposed to cause harm, and this goal tends to be carried out with a milder action. It has been argued that aggressive behaviour involves achieving goals at the expense of others, whereas with assertive behaviour goal achievement is attained without infringing on the rights of others (Scanlon & Ollendick, 1983). An underlying lack of harmful intent is also a feature that is said to distinguish feature assertive behaviour from aggression (Eagly & Steffen, 1986). Likewise, Attili and Hinde (1986) argue that underlying aggression is a "general propensity towards violence" that is reasonably consistent across situations, whereas the main motivation behind assertiveness is "to elevate one's position or push oneself forwards, whether in general terms or in relation to particular objects or goals" (p. 20). Additionally, in the overall analysis of parents' responses to children's behaviour that did not consider the sex of the child, parents were found to be more concerned about physical aggression than physical assertion. Specifically, parents were more likely to prohibit, and less likely to condone children's physical aggression than physical assertion.

On the other hand, there are similarities between these behaviours, namely, physical aggression and assertion are both physical behaviours that are used to attain a desired goal. It is possible to view these behaviours as being within the same group that lies on a continuum that spans from more to less severe physical conflict behaviours. Indeed, mild and severe categories of both physical assertion and aggression were included in this study.

In comparison to mild physical assertion, the severe category (e.g., grabbing, physical contact, property damage) appears to share the most characteristics with physical aggression in terms of its more intense, less socially acceptable, and potentially more harmful nature. This appears to be particularly true of property damage, in which considerable object-focussed hostility is expressed. Indeed, in other studies, some of the severe physical assertion behaviours have been considered to be categories of aggression. Specifically, Zahn-Waxler et al. (1990) differentiated three components of aggression; interpersonal physical aggression (e.g., hitting, kicking), object struggles (e.g., grabbing objects), and out-of-control or undirected aggression (e.g., throwing or kicking toys). The latter two components of aggression correspond with the severe physical assertion categories of grab and property damage in this study. Coie and Dodge (1997) also note that the definition of aggression is sometimes sufficiently broad to include property damage and loss of property. Additionally, Attili and Hinde (1986) outlined a model in which varying levels of assertiveness and aggressiveness were seen as underlying different forms of aggression. For example, instrumental aggression was argued to depend on moderate levels of both assertiveness and aggressiveness, whereas hostile aggression was argued to be predominately based on aggressiveness.

In terms of the results of the present study, there were some differences between physical assertion and physical aggression, but the overall picture was one of similarity. Physical assertion and physical aggression were highly correlated, and the same major findings for sex differences in children's use of these behaviours, and in parents' responses to girls' and boys' physical aggression and assertion were found for both of these behaviours. Thus, physical aggression and physical assertion were combined into a physical conflict behaviour variable. When this variable was analyzed, the main results paralleled those found when physical aggression and physical assertion were examined separately. In terms of sex differences, the noteworthy result that boys engaged in higher levels of physical aggression and assertion than girls at the first time period, but by the second time period, the rates for girls was becoming more similar to that of boys, was also found for the combined physical conflict behaviour variable. As with physical aggression and assertion in isolation,

this effect was due to a greater decrease in boys' than girls' physical conflict behaviour over time.

Understanding the Sex Differences in Children's Physical Conflict Behaviour and How They Changed Over Time

Although boys were expected to show more physical aggression and more of the severe forms of physical assertion than girls, it was not predicted that girls and boys would become more similar over time in terms of their use of physical conflict behaviours. As discussed above, studies have found that there is a dramatic drop in girls' anger and aggression between 2 and 3 years of age and a relatively slow decline for boys (Goodenough, 1931; Smetana, 1989). Why then, did boys' physical conflict behaviour decline more than girls', resulting in girls becoming more similar to boys over time?

Peer Versus Sibling Interaction. As briefly mentioned in relation to the physical aggression results, sibling pairs were the focus of this study, and less stringent conduct rules surrounding the use of physical aggression may be present in sibling interaction than in peer interaction. In general, there are differences between sibling and peer conflict; sibling conflict occurs more frequently, and involves simpler, less elaborated arguments, as well as more withdrawal and ignoring (Vandell & Bailey, 1992). Girls appear to be more uncomfortable than boys when in an angry environment (Cummings et al., 1985; El-Sheikh & Reiter, 1995), thus, girls may prefer to be a part of less outwardly conflictual peer groups. Indeed it has been suggested that there are strong restrictions surrounding aggressive behaviour in girls' peer groups, and girls risk rejection if they engage in such behaviour (Maccoby, 1986; Maccoby & Jacklin, 1987). Unlike with peers, in a sibling relationship girls do not have the option of excluding siblings who act aggressively. Thus, the established norms in girls' peer groups may be the most significant contributor to the steeper decline over time in girls' than boys' physical aggression that has been found in other research.

Results of Other Sibling Aggression Studies. The results of the present study also correspond with other research on sex differences in sibling aggression. In a longitudinal study of sibling behaviour, boys showed more physical aggression than girls at the first

observation period when younger siblings were 18 months-old and older siblings were either 36- or 60-months-old. However, there were no sex differences found in the second or third observation periods (approximately 1½ and 3 years later) (Abramovitch et al., 1986). Similarly, preschool-aged male siblings were found to engage in more agonistic behaviour than any other sibling pairing, but no sex differences in agonistic behaviour were found for school-age sibling pairs (Brody et al., 1985). Thus, it appears that sex differences in children's aggression tend to show different patterns over time depending on whether peer or sibling aggression is studied. In peer-directed aggression, boys and girls have been found to show similar levels of aggression until the age of 2 to 3 years, at which time girls' aggression decreases dramatically relative to boys', resulting in higher rates for boys. Sex differences are not as common in sibling aggression (Loeber & Hay, 1997), but when they do occur, they tend to be found in younger sibling pairs and then become less prevalent over time.

The Role of Parents' Responses. Certain parent characteristics such as highly directive, intrusive, and punitive interventions, inconsistency, and permissiveness, have consistently been found to be related to children's aggression with their peers (Eron et al., 1991; Loeber & Hay, 1997; Parke & Slaby, 1983; Rubin et al., 1995; Serbin et al., 1991). Similarly with sibling aggression, a correlation was found between hostile, cold, rivalrous sibling interactions and parents who were punitive, unaffectionate, and unresponsive to their children's needs as well as erratic in disciplining their children (Hetherington, 1988). On the other hand, Zahn-Waxler and her colleagues have found that early proactive parenting (e.g., attunement with children's perspective, respectful control, providing structure) can act as a protective factor for aggressive children or children who are at-risk for disruptive behaviour (Zahn-Waxler et al., 1990). It is not always clear, however, whether such parent variables instigated or were evoked by high levels of childhood aggression (Loeber & Hay, 1997; Rubin, Stewart, & Chen, 1995). In their review paper, Rubin et al. (1995) argued that the picture is somewhat mixed in terms of whether individual differences in parenting variables are predictive of variations in childhood aggression. Although many longitudinal studies have shown significant associations between negative parenting practices and children's aggression (e.g., Dishion, 1990; Chen & Rubin, 1994; Olweus, 1980; Zahn-Waxler et al., 1990), others have failed to show relationships (e.g., Eron et al., 1991; Hart, DeWolf,

Wozniak, & Burts, 1992). For example, Eron and colleagues (1991) found that parental factors such as harsh punishment and rejection had little impact on the development of aggression in children who ranged in age from 6 to 8 years. From these results they argued that by 6 years of age patterns of aggressive behaviour are well-established; thus, if aggression is a learned behaviour, this learning must occur before 6 years of age. Interestingly, the results of the present study indicated that when the children were 2 and 4 years of age, parents' responses had little impact on their children's physical conflict. Not until children were six years of age, however, did the correlational results suggest that parents were exerting control over their older children's physical conflict through their prohibitions of this behaviour. Finally, Rubin and colleagues (1995) suggested that when aggregate scores of parental behaviour are analyzed, childhood aggression is able to be reliably predicted (e.g., Dishion, 1990). Thus, in general, it appears that studies are able to find relationships between parenting variables and levels of childhood aggression.

It is important to ask whether the sex differences in children's behaviour that were found in the present study were influenced by differences in how parents responded to their daughters' and sons' physical conflict. Parents did differentiate between their daughters and sons; they were more likely to prohibit their boys', and not respond to their girls' physical conflict behaviour at both time periods. In some respects parents reactions seem counter-intuitive. At the first time period boys engaged in more physical conflict behaviour than girls, therefore one might have expected that parents would have been more controlling of their girls' physical conflict and more lenient with their boys in terms of putting restrictions on this behaviour. However, it is important to consider that boys showed a greater decline than girls in their levels of physical conflict over time. Given this pattern of results it was considered to be possible that the stronger restrictions placed on boys' than girls' physical conflict enabled parents to gain control over their more aggressive male children. Exploratory analyses were consistent with this hypothesis. At the first time period, parents' responses to older and younger children's physical conflict appeared to have little influence on the frequency that children engaged in these behaviours. On the other hand, by the second time period parents appeared to be gaining control over their more physically aggressive and assertive children. Parents made greater efforts to control the physical

conflict of their boys, and by the time that boys were 6 years of age, parents' efforts appeared to be having the desired effect. These results suggest that since parents' control was associated with lower levels of physical conflict in their 6-year-old children, the greater efforts that parents made to control their boys' behaviour resulted in a greater decline in the physical conflict of their firstborn sons over time. It is important to note, however, that definitive conclusions regarding causal direction cannot be made given the essentially correlational nature of the analyses in the present study. Further research that replicates this finding and also examines the possibility of alternate causal explanations is necessary before definitive conclusions can be made on the relationship between parents' reactions and sex differences in children's physical conflict behaviour.

It is noteworthy that other investigators have also found evidence that parents are able to exert little control over their children's aggressive behaviour when their children are under 6 years of age. Kendrick and Dunn (1983) found that 2- to 3-year-old boys whose mothers frequently prohibited their hostile behaviour at the first time period engaged in more aggression 6-months later at the second time period than did boys in families in which mothers had not intervened as frequently in this way. Additionally, Dunn and Munn (1986) found that mothers' prohibition of children's conflict behaviour (e.g., physical aggression, verbal aggression, object disputes) at 18 months of age was positively related to younger siblings' concurrent and future physical aggression at 2 years of age. When these findings are considered in conjunction with the results of the present study, it can be argued that parents must persevere in their efforts to gain control over their more physically aggressive and assertive children. It may take time for parents to have an impact on reducing levels of physical conflict in children who engage in high levels of this behaviour at a young age.

Another important issue concerns how to account for the physical conflict behaviour of younger children. Parents appeared to have an indirect influence on variations in their younger' children's physical conflict through their responses to older children's physical conflict. Parents' prohibition of their younger children's physical conflict was not related to younger children's use of these behaviours at either time period. However, parents' prohibitions of their older children's physical conflict was related to lower levels of this behaviour in younger children at the second time period. Additionally, a previous analysis

of the development of physical aggression in the same sample of children showed that younger children's physical aggression was highly dependent on levels of their older siblings' physical aggression (Martin & Ross, 1995). Likewise, in the present study, older children's physical conflict at Time 1 appeared to be a more influential determinant of younger children's physical conflict behaviour at the second time period than younger children's own earlier level of physical conflict. Younger children's physical conflict behaviour was not stable over time, and, at Time 2, it could only be predicted from older children's physical conflict at the first time period. Specifically, younger children that engaged in more physical conflict at the second time period had older siblings who showed relatively high levels of this behaviour at the first time period. It is also important to ask why the sex difference found between younger girls' and boys' physical conflict declines over time. The findings of this study indicate that younger children's level of physical conflict is strongly influenced by that of their older siblings and by parents' controlling behaviour directed to the older children. These two influences on younger children's physical conflict are independent of younger children's sex, and may combine to reduce the sex difference in younger children's physical conflict over time by diminishing the variation in younger children's behaviour.

In summary, boys engaged in higher levels of physical conflict behaviour than girls at the first time period. However, both older and younger boys' physical conflict behaviour declined more than their female counterparts over time. It was expected that parents would have low tolerance for girls' aggressive behaviour, and would intervene to prohibit girls' physical conflict more often than boys' physical conflict. Such a socialization response would have corresponded with boys' higher level of physical conflict than girls at the first time period. In actual fact, parents put more effort into controlling the behaviour of their more physically hostile male children, and tended to disregard the hostile behaviour of their daughters. Although initially parents had little impact on their children's physical conflict, by the second time period, there was evidence that parents were having some success in their efforts to control their older boys' physical conflict. Specifically, parents' more frequent prohibition of their older boys' physical conflict behaviour appeared to contribute to lower levels of older boys' expression of this behaviour when they were 6 years of age. This result

gives evidence that parent perseverance is important for reducing the frequency that children engage in hostile physical conflict behaviour within sibling interactions.

It has also been argued that in order for parents to maximize the effect that they have on their children's behaviour, they must treat their children as individuals, and socialization practices must be tailor-made to suit the uniqueness of each child. For example, Kochanska (1997) found that toddler-aged children's temperament was an important mediator of moral socialization. For children who were relatively prone to anxiety and fearful arousal, parental gentle discipline that de-emphasized the use of power assertion was associated with children's internalized conscience 2 to 3 years later. Similarly, in the present study parents appeared to tailor their responses to individual differences in their children. Parents responded differently to physical conflict depending on the sex of the child who engaged in this behaviour, and their responses corresponded with girls' and boys' differing propensities for physical conflict. Although not in the expected direction, this differential response appeared to be adaptive as it helped to regulate the behaviour of the most physically aggressive and assertive children over time. The fact that younger children's level of physical conflict was related to parents' prohibitions of their older siblings' physical conflict adds complexity to parents' task of altering their interventions to suit the uniqueness of their children. Parents' interventions following their older children's transgressions are actually being received by both their older and younger children. Thus, it follows that parents would need to show sensitivity to the relationship between their children in order for their responses to have maximal effect.

Limitations and Some Future Directions

It is important to acknowledge the limitations of the present study. First, a large number of statistical tests were run on a relatively small data set, which increases the possibility that significant findings could have occurred by chance. Statistical corrections (e.g., Bonferroni) that would have helped to control for such experiment-wise error were not applied to the data. However, the results of the present study were interpretable, and generally followed a consistent pattern which decreases the likelihood that these significant findings could be attributed to chance. Nonetheless, far greater confidence could be placed in these results if they were replicated in an independent sample.

A second limitation concerns the measurement of aggression and self-assertion. This study was based on observational data and the meaning of actions that occurred were evaluated by the observors and not by the actors. Thus, it was not possible to know the children's motivation behind their conflict actions, or parents' interpretation of their children's aggression and self-assertion. The lack of access to the actors' perspective and interpretation of events limited the conclusions that could be drawn from the results of the study. For example, parents showed a high rate of no response to arguably quite serious child behaviours such as physical aggression. It is only possible to speculate about the reasons why parents might have ignored so many aggressive behaviours without having the parents' interpretation of their actions. This situation could be improved in a future study by videotaping parents' responses to sibling conflict, playing the video for the parents, and asking them to explain their actions. On the other hand, parents differential responsiveness to children's aggression versus self-assertion supports the view that the former behaviours are less socially acceptable than the latter. Parents were more likely to prohibit, and less likely to show no response to aggression, whereas parents were less likely to prohibit, and more likely to show no response to self-assertion. In this case, parents' responses reflected the hypothesized result and were consistent with the interpretation that aggression would be viewed by parents as a more serious transgression than self-assertion.

Another limitation of the design of the present study was its exclusive focus on home observations of sibling conflict. In this study boys' physical aggression decreased over time and became more similar to the rate shown by girls. Girls' aggression was more stable from Time 1 to Time 2. In contrast, much of the past research on sex differences in peer-directed aggression has shown that it is girls' not boys' aggression that declines more dramatically over time. Thus, one way to improve this study would be to examine children's aggression both during sibling conflict and in the peer context. This design would allow for comparison of how girls' and boys' rates of aggression change over time when aggressing against their siblings versus against their peers. Additionally, in the present study, it is possible that parents played a role in boys' greater decline in aggression over time through their more frequent prohibitions of boys' than girls' aggressive behaviour. A better understanding of whether parents are simply controlling their boys' aggression in the home, or actually

teaching their boys to aggress less often, could be gained if children's aggressive behaviour were also evaluated outside the home.

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APPENDICES

Appendix A

Means and Standard Deviations for the Analyses of
Children's Aggression and Self-assertion

Table A1

Frequency of Overall Physical Aggression at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**17.80** (11.76)	**14.11** (7.36)	**11.90** (8.90)	**8.10** (8.16)
Girl	**23.30** (17.13)	**9.50** (11.08)	**13.11** (8.18)	**5.00** (5.96)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**7.70** (4.37)	**6.00** (3.53)	**8.10** (8.88)	**9.10** (6.76)
Girl	**18.60** (21.39)	**9.00** (9.40)	**6.33** (3.94)	**6.00** (9.37)

Note: [a] Standard deviations are in parentheses after each mean score

Table A2

Frequency of Mild Physical Aggression at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**6.10** (4.41)	**4.89** (2.98)	**4.80** (4.24)	**2.30** (1.77)
Girl	**7.90** (5.70)	**4.60** (5.87)	**2.78** (2.17)	**2.10** (2.28)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**2.80** (2.44)	**2.33** (2.00)	**2.90** (3.18)	**3.00** (2.40)
Girl	**6.90** (7.39)	**3.40** (2.95)	**2.44** (2.13)	**1.10** (1.45)

Note: [a] Standard deviations are in parentheses after each mean score

Table A3

Frequency of Severe Physical Aggression at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**11.80** (8.72)	**9.11** (5.21)	**7.10** (4.91)	**5.90** (6.90)
Girl	**15.50** (12.22)	**5.00** (5.54)	**10.22** (6.55)	**2.90** (3.96)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**5.20** (2.78)	**4.00** (2.92)	**5.20** (6.07)	**6.20** (4.69)
Girl	**12.00** (15.20)	**5.90** (9.05)	**4.00** (2.78)	**4.80** (7.87)

Note: [a] Standard deviations are in parentheses after each mean score

Table A4

Frequency of Overall Physical Assertion at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	63.40 (18.92)	66.67 (17.74)	63.20 (18.77)	66.40 (31.93)
Girl	80.20 (30.74)	55.80 (25.01)	80.33 (21.13)	53.10 (27.95)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	31.00 (22.45)	27.33 (19.19)	31.80 (28.36)	64.40 (69.63)
Girl	59.90 (55.28)	37.80 (28.95)	29.67 (24.79)	35.90 (27.70)

Note: [a] Standard deviations are in parentheses after each mean score

Table A5

Frequency of Mild Physical Assertion at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**42.50** (13.93)	**46.22** (15.22)	**51.40** (15.40)	**52.40** (22.63)
Girl	**53.50** (21.09)	**37.80** (18.12)	**58.22** (18.83)	**46.40** (26.99)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**21.20** (16.66)	**19.11** (13.91)	**23.80** (22.34)	**53.90** (65.53)
Girl	**42.50** (47.28)	**26.90** (20.56)	**24.00** (24.15)	**31.10** (23.06)

Note: [a] Standard deviations are in parentheses after each mean score

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Table A6

Frequency of Grabbing at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**13.60** (3.81)	**13.89** (5.53)	**5.20** (2.66)	**7.10** (4.25)
Girl	**19.30** (10.39)	**13.30** (6.38)	**15.67** (9.47)	**8.30** (10.14)

Time 2

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**5.10** (3.96)	**5.00** (4.56)	**3.10** (3.35)	**4.90** (5.00)
Girl	**8.40** (4.50)	**6.10** (5.59)	**3.78** (0.97)	**3.00** (3.37)

Note: [a] Standard deviations are in parentheses after each mean score

Table A7

Frequency of Property Damage at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	3.70 (3.13)	2.00 (3.12)	6.20 (4.59)	4.20 (3.12)
Girl	5.20 (3.52)	3.30 (2.67)	7.78 (5.45)	3.90 (4.33)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	1.90 (1.97)	2.00 (2.55)	3.20 (4.26)	6.30 (5.46)
Girl	6.20 (5.20)	2.00 (2.36)	2.00 (2.06)	1.50 (2.37)

Note: [a] Standard deviations are in parentheses after each mean score

Table A8

Frequency of Physical Contact at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**7.70** (7.27)	**8.00** (10.14)	**3.50** (3.75)	**4.90** (8.63)
Girl	**6.70** (4.88)	**5.40** (5.21)	**4.00** (2.69)	**1.50** (1.08)

| **Time 2** | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**2.90** (2.51)	**1.56** (2.60)	**2.70** (3.23)	**2.20** (2.86)
Girl	**5.40** (6.35)	**4.00** (2.69)	**1.00** (1.00)	**1.50** (1.90)

Note: [a] Standard deviations are in parentheses after each mean score

Table A9

Frequency of Overall Verbal Aggression at Time 1 and Time 2

Time 1				
	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**16.90** (17.34)	**11.78** (12.20)	**5.30** (7.04)	**3.80** (5.14)
Girl	**10.30** (8.29)	**11.90** (12.03)	**4.56** (6.93)	**3.80** (2.57)
Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**18.60** (12.84)	**12.67** (19.33)	**7.90** (6.38)	**13.40** (12.75)
Girl	**22.90** (18.27)	**12.00** (12.85)	**12.22** (12.53)	**3.90** (2.60)

Note: [a] Standard deviations are in parentheses after each mean score

Table A10

Frequency of Nagging at Time 1 and Time 2

Time 1

	Sex of Actor			
Sex of Partner	Older		Younger	
	Boy	Girl	Boy	Girl
Boy	**6.40** (6.11)	**5.11** (5.25)	**2.10** (2.28)	**1.30** (2.54)
Girl	**4.90** (4.84)	**4.70** (5.29)	**1.56** (1.67)	**2.60** (2.17)

Time 2

	Sex of Actor			
Sex of Partner	Older		Younger	
	Boy	Girl	Boy	Girl
Boy	**7.90** (10.46)	**5.78** (11.11)	**3.60** (3.37)	**5.60** (6.88)
Girl	**10.40** (9.07)	**7.90** (11.36)	**6.56** (7.94)	**2.30** (2.58)

Note: [a] Standard deviations are in parentheses after each mean score

Table A11

Frequency of Insulting at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**6.40** (7.47)	**2.67** (2.55)	**3.10** (5.65)	**1.70** (3.30)
Girl	**3.10** (4.48)	**3.00** (3.77)	**1.44** (2.96)	**1.00** (1.05)

Time 2

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**4.80** (3.88)	**3.00** (5.02)	**2.90** (2.96)	**3.20** (3.68)
Girl	**12.10** (22.16)	**1.60** (1.43)	**3.22** (3.67)	**0.70** (0.95)

Note: [a] Standard deviations are in parentheses after each mean score

Table A12

Frequency of Threatening at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**4.10** (6.52)	**4.00** (5.92)	**0.00** (0.00)	**0.80** (2.53)
Girl	**2.50** (3.72)	**4.20** (5.98)	**1.56** (3.61)	**0.20** (0.42)

Time 2

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**6.20** (4.66)	**4.00** (4.74)	**1.50** (1.90)	**4.70** (6.34)
Girl	**7.30** (7.97)	**2.40** (2.07)	**2.44** (2.07)	**0.90** (1.60)

Note: [a] Standard deviations are in parentheses after each mean score

Table A13

Frequency of Verbal Assertion at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**97.50** (39.34)	**76.44** (21.93)	**50.70** (28.25)	**55.90** (24.88)
Girl	**78.90** (58.52)	**102.00** (69.89)	**47.78** (31.62)	**80.50** (39.01)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**88.40** (59.90)	**73.00** (64.71)	**80.60** (51.00)	**97.30** (80.79)
Girl	**113.20** (86.31)	**80.80** (47.96)	**61.78** (45.54)	**83.00** (47.21)

Note: [a] Standard deviations are in parentheses after each mean score

Table A14

Frequency of Simple Commands at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**45.40** (21.07)	**35.78** (12.93)	**25.00** (12.89)	**26.40** (15.98)
Girl	**36.00** (28.06)	**42.30** (43.12)	**20.11** (11.58)	**30.70** (16.49)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**26.80** (18.64)	**26.22** (28.43)	**24.00** (17.85)	**28.10** (24.57)
Girl	**38.60** (24.54)	**23.80** (17.11)	**19.00** (14.33)	**25.90** (16.80)

Note: [a] Standard deviations are in parentheses after each mean score

Table A15

Frequency of Reasoning at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**46.20** (27.25)	**36.11** (16.07)	**24.30** (18.51)	**28.30** (11.18)
Girl	**35.40** (23.61)	**50.80** (27.98)	**26.11** (20.29)	**43.10** (22.54)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**54.80** (37.68)	**39.78** (30.54)	**50.70** (31.69)	**61.00** (53.74)
Girl	**66.40** (58.41)	**49.90** (30.60)	**38.78** (29.08)	**52.50** (29.17)

Note: [a] Standard deviations are in parentheses after each mean score

Table A16

Frequency of Reasoning about Feelings at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**0.60** (0.97)	**1.00** (1.32)	**0.20** (0.42)	**0.00** (0.00)
Girl	**1.10** (1.73)	**0.60** (0.70)	**0.00** (0.00)	**0.70** (1.57)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**0.80** (1.14)	**0.56** (0.73)	**0.70** (1.06)	**2.80** (3.94)
Girl	**1.30** (2.58)	**0.30** (0.48)	**1.78** (2.05)	**0.80** (1.32)

Note: [a] Standard deviations are in parentheses after each mean score

Table A17

Frequency of Indirect Assertion at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	5.90 (4.72)	3.78 (2.64)	1.40 (1.65)	1.20 (1.62)
Girl	7.30 (9.26)	8.80 (2.57)	1.56 (2.07)	6.10 (4.28)

Time 2

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	7.00 (8.54)	7.11 (9.12)	5.00 (4.06)	6.30 (5.31)
Girl	7.20 (5.65)	8.00 (5.75)	2.89 (4.37)	4.40 (4.01)

Note: [a] Standard deviations are in parentheses after each mean score

Appendix B

**Means and Standard Deviations for the Analyses of Parents'
Responses to Children's Aggression and Self-assertion**

Table B1

Overall Proportion of Each Type of Parent Response to Each Type of

Child Aggression and Self-assertion

	Child Action			
Parent Response	Physical Aggression	Physical Assertion	Verbal Aggression	Verbal Assertion
Prohibit	**.29** (.15)	**.16** (.07)	**.17** (.12)	**.12** (.05)
Condone	**.05** (.05)	**.12** (.07)	**.06** (.07)	**.12** (.05)
Ignore	**.32** (.14)	**.37** (.09)	**.39** (.16)	**.40** (.10)
No Response	**.28** (.21)	**.30** (.16)	**.32** (.17)	**.30** (.15)

Note: [a] Standard deviations are in parentheses after each mean score

[b] The means for each type of child aggression and assertion do not add to 1.0

because parents' Ambiguous responses were eliminated from the analysis.

Table B2

Proportion of Parent Prohibit to Child Physical Aggression at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.42 (.21)	.31 (.15)	.43 (.34)	.26 (.24)
Girl	.27 (.20)	.30 (.18)	.41 (.16)	.23 (.13)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.34 (.26)	.24 (.13)	.25 (.30)	.21 (.17)
Girl	.26 (.27)	.30 (.23)	.31 (.27)	.19 (.24)

Note: [a] Standard deviations are in parentheses after each mean score

Table B3

Proportion of Parent Condone to Child Physical Aggression at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.02 (.04)	.11 (.11)	.08 (.08)	.06 (.08)
Girl	.05 (.10)	.05 (.06)	.09 (.08)	.12 (.18)

Time 2

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.06 (.06)	.01 (.04)	.04 (.13)	.06 (.09)
Girl	.02 (.04)	.001 (.02)	.03 (.09)	.01 (.03)

Note: [a] Standard deviations are in parentheses after each mean score

Table B4

Proportion of Parent Ignore to Child Physical Aggression at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.31 (.14)	.38 (.10)	.32 (.23)	.28 (.31)
Girl	.30 (.19)	.22 (.19)	.32 (.19)	.40 (.36)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.36 (.24)	.43 (.27)	.45 (.33)	.27 (.09)
Girl	.25 (.23)	.28 (.21)	.42 (.26)	.15 (.20)

Note: [a] Standard deviations are in parentheses after each mean score

Table B5

Proportion of Parent No Response to Child Physical Aggression at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.20 (.16)	.17 (.12)	.15 (.16)	.33 (.35)
Girl	.29 (.15)	.42 (.23)	.15 (.16)	.25 (.35)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.17 (.29)	.30 (.29)	.20 (.34)	.39 (.37)
Girl	.46 (.38)	.25 (.30)	.17 (.35)	.48 (.41)

Note: [a] Standard deviations are in parentheses after each mean score

Table B6

Proportion of Parent Prohibit to Child Physical Assertion at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.21 (.10)	.21 (.10)	.18 (.09)	.12 (.05)
Girl	.24 (.11)	.16 (.08)	.21 (.06)	.12 (.07)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.26 (.16)	.12 (.10)	.16 (.12)	.09 (.09)
Girl	.14 (.10)	.10 (.10)	.16 (.13)	.13 (.13)

Note: [a] Standard deviations are in parentheses after each mean score

Table B7

Proportion of Parent Condone to Child Physical Assertion at Time 1 and Time 2

Time 1

| | | Sex of Actor | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.10** (.04)	**.13** (.05)	**.20** (.08)	**.17** (.10)
Girl	**.07** (.05)	**.08** (.04)	**.15** (.07)	**.11** (.06)

Time 2

| | | Sex of Actor | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.09** (.08)	**.15** (.13)	**.19** (.19)	**.14** (.19)
Girl	**.06** (.07)	**.19** (.30)	**.06** (.05)	**.08** (.07)

Note: [a] Standard deviations are in parentheses after each mean score

Table B8

Proportion of Parent Ignore to Child Physical Assertion at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.40** (.07)	**.37** (.08)	**.37** (.11)	**.36** (.09)
Girl	**.35** (.11)	**.34** (.08)	**.40** (.10)	**.34** (.08)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.45** (.18)	**.37** (.20)	**.43** (.22)	**.34** (.20)
Girl	**.37** (.19)	**.32** (.20)	**.36** (.18)	**.38** (.20)

Note: [a] Standard deviations are in parentheses after each mean score

Table B9

Proportion of Parent No Response to Child Physical Assertion at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.25 (.09)	.25 (.15)	.22 (.04)	.30 (.17)
Girl	.31 (.19)	.37 (.14)	.21 (.16)	.37 (.09)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.14 (.07)	.30 (.26)	.17 (.09)	.40 (.29)
Girl	.40 (.23)	.37 (.30)	.32 (.28)	.39 (.29)

Note: [a] Standard deviations are in parentheses after each mean score

Table B10

Proportion of Parent Prohibit to Child Verbal Aggression at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.28 (.30)	.13 (.08)	.12 (.15)	.08 (.12)
Girl	.11 (.14)	.19 (.22)	.16 (.29)	.18 (.35)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.23 (.22)	.10 (.15)	.25 (.32)	.21 (.44)
Girl	.09 (.11)	.21 (.20)	.13 (.10)	.10 (.18)

Note: [a] Standard deviations are in parentheses after each mean score

Table B11

Proportion of Parent Condone to Child Verbal Aggression at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.03** (.05)	**.14** (.13)	**.10** (.15)	**.30** (.41)
Girl	**.04** (.04)	**.02** (.05)	**.01** (.02)	**.04** (.12)

| **Time 2** | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.03** (.05)	**.04** (.05)	**.04** (.08)	**.06** (.08)
Girl	**.11** (.11)	**.08** (.12)	**.00** (.00)	**.07** (.14)

Note: [a] Standard deviations are in parentheses after each mean score

Table B12

Proportion of Parent Ignore to Child Verbal Aggression at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.51 (.29)	.31 (.17)	.34 (.29)	.32 (.29)
Girl	.48 (.29)	.35 (.27)	.40 (.39)	.22 (.30)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.48 (.16)	.35 (.37)	.36 (.28)	.34 (.32)
Girl	.51 (.09)	.47 (.23)	.34 (.22)	.50 (.26)

Note: [a] Standard deviations are in parentheses after each mean score

Table B13

Proportion of Parent No Response to Child Verbal Aggression at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.13 (.17)	.41 (.14)	.43 (.44)	.30 (.33)
Girl	.37 (.36)	.37 (.30)	.25 (.39)	.55 (.41)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.20 (.18)	.33 (.28)	.23 (.21)	.37 (.39)
Girl	.23 (.16)	.21 (.27)	.46 (.28)	.31 (.33)

Note: [a] Standard deviations are in parentheses after each mean score

Table B14

Proportion of Parent Prohibit to Child Verbal Assertion at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.15** (.05)	**.16** (.09)	**.14** (.06)	**.10** (.07)
Girl	**.17** (.12)	**.11** (.04)	**.18** (.07)	**.09** (.05)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.13** (.10)	**.08** (.06)	**.14** (.08)	**.08** (.06)
Girl	**.11** (.09)	**.09** (.05)	**.16** (.10)	**.08** (.06)

Note: [a] Standard deviations are in parentheses after each mean score

Table B15

Proportion of Parent Condone to Child Verbal Assertion at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.11** (.06)	**.15** (.04)	**.22** (.08)	**.25** (.16)
Girl	**.07** (.03)	**.06** (.03)	**.19** (.18)	**.13** (.05)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.15** (.06)	**.15** (.10)	**.13** (.08)	**.10** (.06)
Girl	**.06** (.06)	**.08** (.05)	**.06** (.04)	**.09** (.07)

Note: [a] Standard deviations are in parentheses after each mean score

Table B16

Proportion of Parent Ignore to Child Verbal Assertion at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.47** (.07)	**.42** (.06)	**.32** (.12)	**.34** (.14)
Girl	**.41** (.12)	**.39** (.10)	**.38** (.10)	**.37** (.12)

Time 2	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.44** (.09)	**.38** (.18)	**.45** (.07)	**.39** (.17)
Girl	**.35** (.21)	**.44** (.17)	**.40** (.17)	**.47** (.19)

Note: [a] Standard deviations are in parentheses after each mean score

Table B17

Proportion of Parent No Response to Child Verbal Assertion at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.24 (.10)	.24 (.12)	.29 (.20)	.26 (.14)
Girl	.31 (.20)	.41 (.10)	.20 (.15)	.37 (.10)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.20 (.13)	.31 (.32)	.21 (.16)	.38 (.21)
Girl	.43 (.26)	.34 (.24)	.33 (.31)	.31 (.26)

Note: [a] Standard deviations are in parentheses after each mean score

Appendix C

Means and Standard Deviations for the Analyses of Children's Physical Conflict and Parents' Responses to Children's Physical Conflict

Table C1

Frequency of Girls' and Boys' Physical Conflict Behaviour at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**81.20** (27.39)	**80.78** (19.31)	**75.10** (22.35)	**74.50** (39.53)
Girl	**103.50** (44.19)	**65.30** (32.74)	**93.44** (27.15)	**58.10** (33.27)

Time 2

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**38.70** (23.99)	**33.33** (22.01)	**39.90** (34.11)	**73.50** (71.73)
Girl	**78.50** (67.98)	**46.80** (34.85)	**36.00** (26.18)	**41.90** (34.79)

Note: [a] Standard deviations are in parentheses after each mean score

Table C2

Proportion of Parent Prohibit to Children's Physical

Conflict Behaviour at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.25 (.11)	.23 (.10)	.20 (.10)	.14 (.06)
Girl	.24 (.10)	.17 (.08)	.23 (.07)	.13 (.09)

| Time 2 | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.28 (.15)	.14 (.08)	.18 (.11)	.12 (.10)
Girl	.16 (.13)	.19 (.14)	.20 (.15)	.14 (.13)

Note: [a] Standard deviations are in parentheses after each mean score

Table C3

Proportion of Parent Condone to Children's Physical
Conflict Behaviour at Time 1 and Time 2

Time 1		Sex of Actor		
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.09** (.04)	**.12** (.05)	**.18** (.06)	**.16** (.10)
Girl	**.06** (.04)	**.08** (.04)	**.14** (.08)	**.11** (.06)
Time 2		Sex of Actor		
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	**.09** (.07)	**.11** (.09)	**.17** (.19)	**.11** (.13)
Girl	**.05** (.06)	**.09** (.08)	**.05** (.03)	**.08** (.06)

Note: [a] Standard deviations are in parentheses after each mean score

Table C4

Proportion of Parent Ignore to Children's Physical

Conflict Behaviour at Time 1 and Time 2

Time 1

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.38 (.07)	.37 (.07)	.37 (.10)	.35 (.09)
Girl	.34 (.11)	.33 (.08)	.40 (.10)	.34 (.08)

Time 2

| | Sex of Actor | | | |
| | Older | | Younger | |
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.42 (.16)	.41 (.16)	.45 (.23)	.34 (.17)
Girl	.35 (.13)	.31 (.12)	.36 (.19)	.36 (.17)

Note: [a] Standard deviations are in parentheses after each mean score

Table C5

Proportion of Parent No Response to Children's Physical

Conflict Behaviour at Time 1 and Time 2

Time 1

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.24 (.09)	.23 (.13)	.21 (.05)	.30 (.17)
Girl	.30 (.17)	.36 (.12)	.20 (.14)	.36 (.10)

Time 2

	Sex of Actor			
	Older		Younger	
Sex of Partner	Boy	Girl	Boy	Girl
Boy	.15 (.10)	.29 (.25)	.16 (.10)	.39 (.28)
Girl	.42 (.23)	.37 (.28)	.29 (.28)	.39 (.29)

Note: [a] Standard deviations are in parentheses after each mean score

Appendix D

Listing of all Statistical Effects

Table D1
<u>Sex Differences in Children's Aggression and Self-Assertion:</u>
<u>Table of all Main Effects and Interactions from each Analysis</u>

Analysis and effects	df	t	$p<$
Physical Aggression	35		
Sex of Actor		2.35	.02
Sex of Partner		-0.47	ns
Sibling Status		3.98	.001
Time		2.51	.05
Sex of Actor*Sex of Partner		-1.20	ns
Sex of Actor*Sibling Status		1.27	ns
Sex of Partner*Sibling Status		-1.56	ns
Time*Sex of Actor		2.40	.05
Time*Sex of Partner		1.28	ns
Time*Sibling Status		2.41	.05
Sex of Actor*Sex of Partner*Sibling Status		-1.28	ns
Time*Sex of Actor*Sex of Partner		-0.41	ns
Time*Sex of Actor*Sibling Status		-0.54	ns
Time*Sex of Partner*Sibling Status		1.35	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.13	ns
Physical Aggression - Mild	35		
Sex of Actor		2.18	.05
Sex of Partner		-0.36	ns
Sibling Status		4.97	.001
Time		2.25	.05
Sex of Actor*Sex of Partner		-0.70	.05
Sex of Actor*Sibling Status		0.84	ns
Sex of Partner*Sibling Status		-2.32	.05
Time*Sex of Actor		0.66	.05
Time*Sex of Partner		0.94	ns
Time*Sibling Status		1.69	.10
Sex of Actor*Sex of Partner*Sibling Status		-1.56	ns
Time*Sex of Actor*Sex of Partner		0.90	ns
Time*Sex of Actor*Sibling Status		-0.32	ns
Time*Sex of Partner*Sibling Status		0.88	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.71	ns

Physical Aggression - Severe	35		
Sex of Actor		2.23	.05
Sex of Partner		-0.48	ns
Sibling Status		3.00	.01
Time		2.14	.05
Sex of Actor*Sex of Partner		-1.37	ns
Sex of Actor*Sibling Status		1.37	ns
Sex of Partner*Sibling Status		-1.07	ns
Time*Sex of Actor		2.72	.02
Time*Sex of Partner		1.07	ns
Time*Sibling Status		1.93	.10
Sex of Actor*Sex of Partner*Sibling Status		-0.87	ns
Time*Sex of Actor*Sex of Partner		-0.93	ns
Time*Sex of Actor*Sibling Status		-0.52	ns
Time*Sex of Partner*Sibling Status		1.39	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.69	ns
Physical Assertion	35		
Sex of Actor		0.81	ns
Sex of Partner		-0.46	ns
Sibling Status		-0.17	ns
Time		4.66	.001
Sex of Actor*Sex of Partner		-1.54	ns
Sex of Actor*Sibling Status		1.11	ns
Sex of Partner*Sibling Status		-1.30	ns
Time*Sex of Actor		2.60	.02
Time*Sex of Partner		-0.05	ns
Time*Sibling Status		0.94	ns
Sex of Actor*Sex of Partner*Sibling Status		0.68	ns
Time*Sex of Actor*Sex of Partner		-0.29	ns
Time*Sex of Actor*Sibling Status		-1.66	ns
Time*Sex of Partner*Sibling Status		1.67	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.56	ns
Physical Assertion - Mild	35		
Sex of Actor		0.10	ns
Sex of Partner		-0.30	ns
Sibling Status		-3.18	.01
Time		3.78	.001
Sex of Actor*Sex of Partner		1.24	ns
Sex of Actor*Sibling Status		1.18	ns
Sex of Partner*Sibling Status		-1.12	ns
Time*Sex of Actor		2.27	.05
Time*Sex of Partner		0.17	ns
Time*Sibling Status		-0.46	ns
Sex of Actor*Sex of Partner*Sibling Status		0.18	ns
Time*Sex of Actor*Sex of Partner		0.11	ns
Time*Sex of Actor*Sibling Status		-1.50	ns
Time*Sex of Partner*Sibling Status		1.39	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-1.38	ns

Physical Assertion - Grab	35		
Sex of Actor		1.30	ns
Sex of Partner		-2.06	.05
Sibling Status		4.70	.001
Time		8.50	.001
Sex of Actor*Sex of Partner		-2.00	.10
Sex of Actor*Sibling Status		0.47	ns
Sex of Partner*Sibling Status		0.12	ns
Time*Sex of Actor		1.55	.05
Time*Sex of Partner		-2.15	.05
Time*Sibling Status		2.76	.01
Sex of Actor*Sex of Partner*Sibling Status		0.47	ns
Time*Sex of Actor*Sex of Partner		-1.61	ns
Time*Sex of Actor*Sibling Status		-0.57	ns
Time*Sex of Partner*Sibling Status		2.20	.01
Time*Sex of Actor*Sex of Partner*Sibling Status		0.51	ns
Physical Assertion - Physical Contact	35		
Sex of Actor		0.72	ns
Sex of Partner		0.59	ns
Sibling Status		3.65	.001
Time		2.80	.01
Sex of Actor*Sex of Partner		-0.60	ns
Sex of Actor*Sibling Status		0.40	ns
Sex of Partner*Sibling Status		-1.01	ns
Time*Sex of Actor		-0.10	ns
Time*Sex of Partner		1.41	ns
Time*Sibling Status		1.56	ns
Sex of Actor*Sex of Partner*Sibling Status		0.22	ns
Time*Sex of Actor*Sex of Partner		-0.88	ns
Time*Sex of Actor*Sibling Status		-0.48	ns
Time*Sex of Partner*Sibling Status		1.36	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		2.00	ns
Physical Assertion - Property Damage	35		
Sex of Actor		2.19	.05
Sex of Partner		-0.47	ns
Sibling Status		-2.03	.05
Time		2.66	.02
Sex of Actor*Sex of Partner		-1.53	ns
Sex of Actor*Sibling Status		0.73	ns
Sex of Partner*Sibling Status		-1.97	.10
Time*Sex of Actor		2.61	ns
Time*Sex of Partner		-1.89	.10
Time*Sibling Status		-2.10	.05
Sex of Actor*Sex of Partner*Sibling Status		0.23	ns
Time*Sex of Actor*Sex of Partner		1.39	ns
Time*Sex of Actor*Sibling Status		-2.04	.05
Time*Sex of Partner*Sibling Status		2.00	.10
Time*Sex of Actor*Sex of Partner*Sibling Status		0.71	ns

Physical Conflict	35		
(Physical Aggression + Physical Assertion)			
Sex of Actor		-0.06	ns
Sex of Partner		0.19	ns
Sibling Status		4.63	.001
Time		4.85	.001
Sex of Actor*Sex of Partner		-1.25	ns
Sex of Actor*Sibling Status		1.88	.10
Sex of Partner*Sibling Status		-1.59	ns
Time*Sex of Actor		2.79	.02
Time*Sex of Partner		0.33	ns
Time*Sibling Status		1.76	.10
Sex of Actor*Sex of Partner*Sibling Status		-0.28	ns
Time*Sex of Actor*Sex of Partner		-0.37	ns
Time*Sex of Actor*Sibling Status		-1.67	ns
Time*Sex of Partner*Sibling Status		1.91	.10
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.33	ns
Verbal Aggression	35		
Sex of Actor		1.71	.10
Sex of Partner		0.59	ns
Sibling Status		5.94	.001
Time		-2.32	.05
Sex of Actor*Sex of Partner		-0.50	ns
Sex of Actor*Sibling Status		0.76	ns
Sex of Partner*Sibling Status		-0.15	ns
Time*Sex of Actor		-1.45	ns
Time*Sex of Partner		0.59	ns
Time*Sibling Status		0.68	ns
Sex of Actor*Sex of Partner*Sibling Status		1.42	ns
Time*Sex of Actor*Sex of Partner		1.73	.10
Time*Sex of Actor*Sibling Status		-0.93	ns
Time*Sex of Partner*Sibling Status		1.06	ns
Time*Sex of Actor*Sex of Partner *Sibling Status		-0.42	ns
Verbal Aggression - Nag	35		
Sex of Actor		0.94	ns
Sex of Partner		-0.36	ns
Sibling Status		4.21	.001
Time		-2.40	.05
Sex of Actor*Sex of Partner		-0.31	ns
Sex of Actor*Sibling Status		0.40	ns
Sex of Partner*Sibling Status		-0.22	ns
Time*Sex of Actor		-0.90	ns
Time*Sex of Partner		0.87	ns
Time*Sibling Status		-0.07	ns
Sex of Actor*Sex of Partner*Sibling Status		0.78	ns
Time*Sex of Actor*Sex of Partner		1.07	ns
Time*Sex of Actor*Sibling Status		-0.08	ns
Time*Sex of Partner*Sibling Status		0.91	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-1.21	ns

Verbal Aggression - Insult	35		
Sex of Actor		2.05	.05
Sex of Partner		0.16	ns
Sibling Status		2.30	.05
Time		-1.12	ns
Sex of Actor*Sex of Partner		-0.66	ns
Sex of Actor*Sibling Status		1.31	ns
Sex of Partner*Sibling Status		-0.81	ns
Time*Sex of Actor		-1.16	ns
Time*Sex of Partner		1.18	ns
Time*Sibling Status		-0.52	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.39	ns
Time*Sex of Actor*Sex of Partner		1.99	.10
Time*Sex of Actor*Sibling Status		-1.10	ns
Time*Sex of Partner*Sibling Status		1.18	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		1.25	ns
Verbal Aggression - Threat	35		
Sex of Actor		1.01	ns
Sex of Partner		0.87	ns
Sibling Status		5.45	.001
Time		-2.25	.05
Sex of Actor*Sex of Partner		-0.95	ns
Sex of Actor*Sibling Status		0.81	ns
Sex of Partner*Sibling Status		0.00	ns
Time*Sex of Actor		-1.84	.10
Time*Sex of Partner		-0.82	ns
Time*Sibling Status		0.52	ns
Sex of Actor*Sex of Partner*Sibling Status		1.45	ns
Time*Sex of Actor*Sex of Partner		1.32	ns
Time*Sex of Actor*Sibling Status		-2.00	.10
Time*Sex of Partner*Sibling Status		0.86	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.52	ns
Verbal Assertion	35		
Sex of Actor		-0.38	ns
Sex of Partner		-0.36	ns
Sibling Status		4.47	.001
Time		-1.30	ns
Sex of Actor*Sex of Partner		0.54	ns
Sex of Actor*Sibling Status		1.43	ns
Sex of Partner*Sibling Status		-0.60	ns
Time*Sex of Actor		-1.13	ns
Time*Sex of Partner		-0.66	ns
Time*Sibling Status		3.86	.001
Sex of Actor*Sex of Partner*Sibling Status		-0.14	ns
Time*Sex of Actor*Sex of Partner		1.24	ns
Time*Sex of Actor*Sibling Status		-0.88	ns
Time*Sex of Partner*Sibling Status		1.43	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		1.69	.10

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Verbal Assertion - Simple Command	35		
Sex of Actor		-0.14	ns
Sex of Partner		0.04	ns
Sibling Status		3.97	.001
Time		1.84	.10
Sex of Actor*Sex of Partner		0.33	ns
Sex of Actor*Sibling Status		1.26	ns
Sex of Partner*Sibling Status		-0.43	ns
Time*Sex of Actor		-0.62	ns
Time*Sex of Partner		0.27	ns
Time*Sibling Status		2.11	.05
Sex of Actor*Sex of Partner*Sibling Status		-0.54	ns
Time*Sex of Actor*Sex of Partner		1.36	ns
Time*Sex of Actor*Sibling Status		-0.45	ns
Time*Sex of Partner*Sibling Status		0.76	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		1.29	ns
Verbal Assertion - Reasoning	35		
Sex of Actor		-0.40	ns
Sex of Partner		-0.47	ns
Sibling Status		3.06	.01
Time		-3.04	.01
Sex of Actor*Sex of Partner		0.61	ns
Sex of Actor*Sibling Status		1.41	ns
Sex of Partner*Sibling Status		-0.58	ns
Time*Sex of Actor		-1.42	ns
Time*Sex of Partner		0.81	ns
Time*Sibling Status		2.84	.01
Sex of Actor*Sex of Partner*Sibling Status		0.43	ns
Time*Sex of Actor*Sex of Partner		0.90	ns
Time*Sex of Actor*Sibling Status		-1.12	ns
Time*Sex of Partner*Sibling Status		1.54	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		1.27	ns
Verbal Assertion - Reasoning about Feelings	35		
Sex of Actor		1.21	ns
Sex of Partner		-1.22	ns
Sibling Status		7.92	.001
Time		-8.04	.001
Sex of Actor*Sex of Partner		-1.65	ns
Sex of Actor*Sibling Status		0.47	ns
Sex of Partner*Sibling Status		0.23	ns
Time*Sex of Actor		-1.20	ns
Time*Sex of Partner		0.79	ns
Time*Sibling Status		-7.95	.001
Sex of Actor*Sex of Partner*Sibling Status		-0.01	ns
Time*Sex of Actor*Sex of Partner		0.17	ns
Time*Sex of Actor*Sibling Status		-1.22	ns
Time*Sex of Partner*Sibling Status		0.88	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.13	ns con'd...

Verbal Assertion - Indirect Assertion	35		
Sex of Actor		-1.01	ns
Sex of Partner		-1.16	ns
Sibling Status		4.21	.001
Time		-1.70	.10
Sex of Actor*Sex of Partner		1.08	ns
Sex of Actor*Sibling Status		0.91	ns
Sex of Partner*Sibling Status		-0.85	ns
Time*Sex of Actor		0.00	ns
Time*Sex of Partner		-2.66	.02
Time*Sibling Status		0.99	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.10	ns
Time*Sex of Actor*Sex of Partner		1.07	ns
Time*Sex of Actor*Sibling Status		0.47	ns
Time*Sex of Partner*Sibling Status		0.57	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.33	ns

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Table D2a
Parents' Responses to Children's Aggression and Self-Assertion: Table of all
Main Effects and Interactions from each Analysis of Variance (ANOVA)

Analysis and effects	df	F	p<
Parent Prohibit			
Type of Child Action	3, 69	32.18	.001
Sibling Status	1, 23	0.76	ns
Time	1, 23	5.69	.05
Child Action*Sibling Status	3, 69	0.03	ns
Child Action*Time	3, 69	0.36	ns
Sibling Status*Time	1, 23	0.06	ns
Child Action*Sibling Status*Time	3, 69	0.75	ns
Parent Condone			
Type of Child Action	3, 69	10.23	.001
Sibling Status	1, 23	4.01	ns
Time	1, 23	10.55	.01
Child Action *Sibling Status	3, 69	0.26	ns
Child Action *Time	3, 69	0.50	ns
Sibling Status*Time	1, 23	11.81	.01
Child Action *Sibling Status*Time	3, 69	0.97	ns
Parent Ignore			
Type of Child Action	3, 69	2.47	ns
Sibling Status	1, 23	3.50	ns
Time	1, 23	1.85	ns
Child Action *Sibling Status	3, 69	3.13	.05
Child Action *Time	3, 69	0.49	ns
Sibling Status*Time	1, 23	1.33	ns
Child Action *Sibling Status*Time	3, 69	0.80	ns
Parent No Response			
Type of Child Action	3, 69	2.26	ns
Sibling Status	1, 23	0.30	ns
Time	1, 23	0.38	ns
Child Action *Sibling Status	3, 69	4.24	.01
Child Action *Time	3, 69	2.05	ns
Sibling Status*Time	1, 23	0.82	ns
Child Action *Sibling Status*Time	3, 69	0.04	ns
Parent Ambiguous			
Type of Child Action	3, 69	0.95	ns
Sibling Status	1, 23	0.05	ns
Time	1, 23	2.32	ns
Child Action *Sibling Status	3, 69	0.17	ns
Child Action *Time	3, 69	0.28	ns
Sibling Status*Time	1, 23	0.00	ns
Child Action *Sibling Status*Time	3, 69	0.34	ns

Table D2b
Parents' Responses to Children's Aggression and Self-assertion: Table of Post-hoc
Paired Sample t-tests for Significant Effects from each ANOVA in Table D2a

Analysis and effects	df	t	p<
Parent Prohibit			
Child Action main effect			
Physical Aggression vs Physical Assertion	34	7.06	.001
Physical Aggression vs Verbal Aggression	23	5.81	.001
Physical Aggression vs Verbal Assertion	33	7.69	.001
Physical Assertion vs Verbal Aggression	27	-0.35	ns
Physical Assertion vs Verbal Assertion	37	4.94	.001
Verbal Aggression vs Verbal Assertion	27	2.34	.05
Parent Condone			
Child Action main effect			
Physical Aggression vs Physical Assertion	34	-5.37	.001
Physical Aggression vs Verbal Aggression	23	0.96	ns
Physical Aggression vs Verbal Assertion	33	-6.10	.001
Physical Assertion vs Verbal Aggression	27	3.04	.01
Physical Assertion vs Verbal Assertion	37	-0.04	ns
Verbal Aggression vs Verbal Assertion	27	-3.76	.01
Sibling Status*Time interaction			
Older Time 1 vs Older Time 2	35	0.19	ns
Older Time1 vs Younger Time 1	25	-3.19	.01
Older Time 2 vs Younger Time 2	35	0.31	ns
Younger Time 1 vs Younger Time 2	24	3.81	.01
Parent Ignore			
Child Action*Sibling Status			
Older Physical Aggression (PA) vs Younger PA	34	-0.34	ns
Older Physical Assertion (PS) vs Younger PS	38	-0.10	ns
Older Verbal Aggression (VA) vs Younger VA	27	1.51	ns
Older Verbal Assertion (VS) vs Younger VS	37	2.06	.05
Parent No Response			
Child Action*Sibling Status			
Older Physical Aggression (PA) vs Younger PA	34	1.02	ns
Older Physical Assertion (PS) vs Younger PS	38	-0.09	ns
Older Verbal Aggression (VA) vs Younger VA	27	-2.00	.10
Older Verbal Assertion (VS) vs Younger VS	37	1.26	ns

Table D3
Parents' Responses to Girls' and Boys' Aggression and Self-assertion:
Table of all Main Effects and Interactions from each Analysis

Analysis and effects	df	t	p<
Parent Prohibit to	31		
Physical Aggression			
Sex of Actor		2.06	.05
Sex of Partner		0.53	ns
Sibling Status		0.51	ns
Time		1.86	.10
Sex of Actor*Sex of Partner		0.48	ns
Sex of Actor*Sibling Status		-0.93	ns
Sex of Partner*Sibling Status		0.36	ns
Time*Sex of Actor		0.85	ns
Time*Sex of Partner		0.63	ns
Time*Sibling Status		-0.83	ns
Sex of Actor*Sex of Partner*Sibling Status		1.14	ns
Time*Sex of Actor*Sex of Partner		0.25	ns
Time*Sex of Actor*Sibling Status		-0.65	ns
Time*Sex of Partner*Sibling Status		0.29	ns
Sex of Actor		-0.40	ns
Sex of Partner		0.60	ns
Sibling Status		-1.68	ns
Time		2.84	.01
Sex of Actor*Sex of Partner		-0.24	ns
Sex of Actor*Sibling Status		-0.15	ns
Sex of Partner*Sibling Status		0.56	ns
Time*Sex of Actor		-1.42	ns
Time*Sex of Partner		-1.27	ns
Time*Sibling Status		-0.61	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.53	ns
Time*Sex of Actor*Sex of Partner		-0.20	ns
Time*Sex of Actor*Sibling Status		-1.06	ns
Time*Sex of Partner*Sibling Status		1.06	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-1.99	.10 con'd...

Parent Ignore to	31		
Physical Aggression			
Sex of Actor		1.11	ns
Sex of Partner		1.51	ns
Sibling Status		-0.32	ns
Time		-0.22	ns
Sex of Actor*Sex of Partner		-0.44	ns
Sex of Actor*Sibling Status		-1.38	ns
Sex of Partner*Sibling Status		1.15	ns
Time*Sex of Actor		-1.13	ns
Time*Sex of Partner		-1.03	ns
Time*Sibling Status		-0.58	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.77	ns
Time*Sex of Actor*Sex of Partner		0.26	ns
Time*Sex of Actor*Sibling Status		2.01	.10
Time*Sex of Partner*Sibling Status		0.63	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-1.18	ns
Parent No Response to	31		
Physical Aggression			
Sex of Actor		-2.93	.01
Sex of Partner		-2.18	.05
Sibling Status		1.01	ns
Time		-1.21	ns
Sex of Actor*Sex of Partner		-0.04	ns
Sex of Actor*Sibling Status		1.27	ns
Sex of Partner*Sibling Status		-1.47	ns
Time*Sex of Actor		0.31	ns
Time*Sex of Partner		0.41	ns
Time*Sibling Status		0.66	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.31	ns
Time*Sex of Actor*Sex of Partner		0.39	ns
Time*Sex of Actor*Sibling Status		-0.97	ns
Time*Sex of Partner*Sibling Status		-0.38	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		2.60	.02
Parent Ambiguous to	31		
Physical Aggression			
Sex of Actor		0.19	ns
Sex of Partner		-0.29	ns
Sibling Status		-0.12	ns
Time		-1.14	ns
Sex of Actor*Sex of Partner		0.55	ns
Sex of Actor*Sibling Status		0.36	ns
Sex of Partner*Sibling Status		0.17	ns
Time*Sex of Actor		1.01	ns
Time*Sex of Partner		0.78	ns
Time*Sibling Status		1.50	ns
Sex of Actor*Sex of Partner*Sibling Status		0.35	ns
Time*Sex of Actor*Sex of Partner		-2.00	.10
Time*Sex of Actor*Sibling Status		-0.02	ns
Time*Sex of Partner*Sibling Status		-1.71	.10
Time*Sex of Actor*Sex of Partner *Sibling Status		0.33	ns

Parent Prohibit to	35		
Physical Assertion			
Sex of Actor		3.51	.01
Sex of Partner		0.82	ns
Sibling Status		1.94	.10
Time		2.41	.05
Sex of Actor*Sex of Partner		0.22	ns
Sex of Actor*Sibling Status		0.14	ns
Sex of Partner*Sibling Status		1.67	ns
Time*Sex of Actor		-0.52	ns
Time*Sex of Partner		-1.01	ns
Time*Sibling Status		0.81	ns
Sex of Actor*Sex of Partner*Sibling Status		0.12	ns
Time*Sex of Actor*Sex of Partner		-1.99	.10
Time*Sex of Actor*Sibling Status		-1.06	ns
Time*Sex of Partner*Sibling Status		-1.12	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.87	ns
Parent Condone to	35		
Physical Assertion			
Sex of Actor		-0.90	ns
Sex of Partner		2.43	.05
Sibling Status		-1.67	ns
Time		0.31	.05
Sex of Actor*Sex of Partner		0.61	ns
Sex of Actor*Sibling Status		-1.95	.10
Sex of Partner*Sibling Status		-1.46	ns
Time*Sex of Actor		1.14	ns
Time*Sex of Partner		0.15	ns
Time*Sibling Status		-1.73	.10
Sex of Actor*Sex of Partner*Sibling Status		-0.06	ns
Time*Sex of Actor*Sex of Partner		-1.12	ns
Time*Sex of Actor*Sibling Status		0.77	ns
Time*Sex of Partner*Sibling Status		1.23	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.25	ns
Parent Ignore to	35		
Physical Assertion			
Sex of Actor		1.68	ns
Sex of Partner		1.26	ns
Sibling Status		-0.12	ns
Time		-0.33	ns
Sex of Actor*Sex of Partner		0.47	ns
Sex of Actor*Sibling Status		0.13	ns
Sex of Partner*Sibling Status		0.88	ns
Time*Sex of Actor		-0.48	ns
Time*Sex of Partner		-0.36	ns
Time*Sibling Status		-0.22	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.12	ns
Time*Sex of Actor*Sex of Partner		-0.79	ns
Time*Sex of Actor*Sibling Status		-0.61	ns
Time*Sex of Partner*Sibling Status		0.00	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		1.15	ns

Parent No Response to	35		
Physical Assertion			
Sex of Actor		-3.54	.01
Sex of Partner		-3.43	.01
Sibling Status		-0.04	ns
Time		-0.66	ns
Sex of Actor*Sex of Partner		-0.56	ns
Sex of Actor*Sibling Status		1.00	ns
Sex of Partner*Sibling Status		-0.90	ns
Time*Sex of Actor		0.56	ns
Time*Sex of Partner		0.98	ns
Time*Sibling Status		1.46	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.49	ns
Time*Sex of Actor*Sex of Partner		1.63	ns
Time*Sex of Actor*Sibling Status		0.04	ns
Time*Sex of Partner*Sibling Status		0.46	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.04	ns
Parent Ambiguous to	35		
Physical Assertion			
Sex of Actor		0.77	ns
Sex of Partner		-0.35	ns
Sibling Status		0.00	ns
Time		-0.57	ns
Sex of Actor*Sex of Partner		-0.28	ns
Sex of Actor*Sibling Status		-0.74	ns
Sex of Partner*Sibling Status		1.23	ns
Time*Sex of Actor		-3.65	.001
Time*Sex of Partner		-1.28	ns
Time*Sibling Status		0.00	ns
Sex of Actor*Sex of Partner*Sibling Status		0.00	ns
Time*Sex of Actor*Sex of Partner		1.14	ns
Time*Sex of Actor*Sibling Status		2.23	.05
Time*Sex of Partner*Sibling Status		-2.09	.05
Time*Sex of Actor*Sex of Partner*Sibling Status		0.00	ns
Parent Prohibit to	35		
Physical Conflict			
Sex of Actor		3.54	.01
Sex of Partner		0.57	ns
Sibling Status		2.56	.02
Time		1.45	ns
Sex of Actor*Sex of Partner		0.48	ns
Sex of Actor*Sibling Status		-0.57	ns
Sex of Partner*Sibling Status		1.26	ns
Time*Sex of Actor		0.09	ns
Time*Sex of Partner		0.16	ns
Time*Sibling Status		0.47	ns
Sex of Actor*Sex of Partner*Sibling Status		1.89	.10
Time*Sex of Actor*Sex of Partner		-1.80	ns
Time*Sex of Actor*Sibling Status		-0.37	ns
Time*Sex of Partner*Sibling Status		-0.09	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-1.34	ns

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Parent Condone to	35		
Physical Conflict			
Sex of Actor		-0.28	ns
Sex of Partner		3.83	.001
Sibling Status		-3.70	.001
Time		2.16	.10
Sex of Actor*Sex of Partner		0.37	ns
Sex of Actor*Sibling Status		-1.68	ns
Sex of Partner*Sibling Status		-0.98	ns
Time*Sex of Actor		0.20	ns
Time*Sex of Partner		-0.44	ns
Time*Sibling Status		-1.61	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.84	ns
Time*Sex of Actor*Sex of Partner		-1.37	ns
Time*Sex of Actor*Sibling Status		0.00	ns
Time*Sex of Partner*Sibling Status		0.88	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.81	ns
Parent Ignore to	35		
Physical Conflict			
Sex of Actor		1.51	ns
Sex of Partner		1.84	.10
Sibling Status		-0.56	ns
Time		-0.49	ns
Sex of Actor*Sex of Partner		0.10	ns
Sex of Actor*Sibling Status		-0.66	ns
Sex of Partner*Sibling Status		0.99	ns
Time*Sex of Actor		-0.34	ns
Time*Sex of Partner		-0.93	ns
Time*Sibling Status		-0.20	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.93	ns
Time*Sex of Actor*Sex of Partner		-0.49	ns
Time*Sex of Actor*Sibling Status		0.03	ns
Time*Sex of Partner*Sibling Status		-0.09	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		1.57	ns
Parent No Response to	35		
Physical Conflict			
Sex of Actor		-3.81	.001
Sex of Partner		-3.73	.001
Sibling Status		0.59	ns
Time		-0.82	ns
Sex of Actor*Sex of Partner		-0.49	ns
Sex of Actor*Sibling Status		1.27	ns
Sex of Partner*Sibling Status		-1.07	ns
Time*Sex of Actor		0.55	ns
Time*Sex of Partner		1.00	ns
Time*Sibling Status		0.64	ns
Sex of Actor*Sex of Partner*Sibling Status		-0.59	ns
Time*Sex of Actor*Sex of Partner		1.53	ns
Time*Sex of Actor*Sibling Status		-0.19	ns
Time*Sex of Partner*Sibling Status		0.34	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.54	ns

Parent Ambiguous to	35		
Physical Conflict			
Sex of Actor		0.74	ns
Sex of Partner		-0.63	ns
Sibling Status		-0.30	ns
Time		-0.49	ns
Sex of Actor*Sex of Partner		0.57	ns
Sex of Actor*Sibling Status		-0.06	ns
Sex of Partner*Sibling Status		1.08	ns
Time*Sex of Actor		-2.57	.02
Time*Sex of Partner		-0.59	ns
Time*Sibling Status		0.00	ns
Sex of Actor*Sex of Partner*Sibling Status		1.28	ns
Time*Sex of Actor*Sex of Partner		-0.07	ns
Time*Sex of Actor*Sibling Status		2.07	.05
Time*Sex of Partner*Sibling Status		-2.86	.01
Time*Sex of Actor*Sex of Partner*Sibling Status		0.00	ns
Parent Prohibit to	25		
Verbal Aggression			
Sex of Actor		0.47	ns
Sex of Partner		0.63	ns
Sibling Status		0.29	ns
Time		-0.16	ns
Sex of Actor*Sex of Partner		1.57	ns
Sex of Actor*Sibling Status		-0.03	ns
Sex of Partner*Sibling Status		0.08	ns
Time*Sex of Actor		0.17	ns
Time*Sex of Partner		-0.90	ns
Time*Sibling Status		0.56	ns
Sex of Actor*Sex of Partner*Sibling Status		1.14	ns
Time*Sex of Actor*Sex of Partner		0.04	ns
Time*Sex of Actor*Sibling Status		0.29	ns
Time*Sex of Partner*Sibling Status		1.42	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.01	ns
Parent Condone to	25		
Verbal Aggression			
Sex of Actor		-1.81	.10
Sex of Partner		1.70	ns
Sibling Status		-0.67	ns
Time		1.20	ns
Sex of Actor*Sex of Partner		-1.42	ns
Sex of Actor*Sibling Status		1.55	ns
Sex of Partner*Sibling Status		-2.27	.05
Time*Sex of Actor		-1.22	ns
Time*Sex of Partner		2.60	.02
Time*Sibling Status		-1.61	ns
Sex of Actor*Sex of Partner*Sibling Status		-1.41	ns
Time*Sex of Actor*Sex of Partner		-1.39	ns
Time*Sex of Actor*Sibling Status		0.04	ns
Time*Sex of Partner*Sibling Status		-0.50	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.57	ns

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Parent Ignore to	25		
Verbal Aggression			
Sex of Actor		1.40	ns
Sex of Partner		-0.62	ns
Sibling Status		1.53	ns
Time		-1.19	ns
Sex of Actor*Sex of Partner		0.33	ns
Sex of Actor*Sibling Status		0.77	ns
Sex of Partner*Sibling Status		-0.13	ns
Time*Sex of Actor		1.60	ns
Time*Sex of Partner		1.08	ns
Time*Sibling Status		0.33	ns
Sex of Actor*Sex of Partner*Sibling Status		0.33	ns
Time*Sex of Actor*Sex of Partner		-0.94	ns
Time*Sex of Actor*Sibling Status		-0.49	ns
Time*Sex of Partner*Sibling Status		-0.10	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		1.07	ns
Parent No Response to	25		
Verbal Aggression			
Sex of Actor		-1.15	ns
Sex of Partner		-0.74	ns
Sibling Status		-1.62	ns
Time		1.04	ns
Sex of Actor*Sex of Partner		-0.51	ns
Sex of Actor*Sibling Status		-0.49	ns
Sex of Partner*Sibling Status		0.30	ns
Time*Sex of Actor		-0.83	ns
Time*Sex of Partner		-0.46	ns
Time*Sibling Status		0.31	ns
Sex of Actor*Sex of Partner*Sibling Status		-1.42	ns
Time*Sex of Actor*Sex of Partner		1.33	ns
Time*Sex of Actor*Sibling Status		0.08	ns
Time*Sex of Partner*Sibling Status		-0.86	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-1.98	.10
Parent Ambiguous to	25		
Verbal Aggression			
Sex of Actor		0.58	ns
Sex of Partner		0.00	ns
Sibling Status		0.15	ns
Time		-0.72	ns
Sex of Actor*Sex of Partner		-0.52	ns
Sex of Actor*Sibling Status		-1.74	.10
Sex of Partner*Sibling Status		1.15	ns
Time*Sex of Actor		0.33	ns
Time*Sex of Partner		-1.60	ns
Time*Sibling Status		-0.68	ns
Sex of Actor*Sex of Partner*Sibling Status		0.23	ns
Time*Sex of Actor*Sex of Partner		0.13	ns
Time*Sex of Actor*Sibling Status		0.21	ns
Time*Sex of Partner*Sibling Status		0.33	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		2.04	.10

Parent Prohibit to	34		
Verbal Assertion			
Sex of Actor		3.46	.01
Sex of Partner		-0.07	ns
Sibling Status		0.24	ns
Time		2.73	.02
Sex of Actor*Sex of Partner		-0.82	ns
Sex of Actor*Sibling Status		-1.07	ns
Sex of Partner*Sibling Status		0.72	ns
Time*Sex of Actor		-0.26	ns
Time*Sex of Partner		-0.09	ns
Time*Sibling Status		1.26	ns
Sex of Actor*Sex of Partner*Sibling Status		0.24	ns
Time*Sex of Actor*Sex of Partner		-1.75	.10
Time*Sex of Actor*Sibling Status		-0.05	ns
Time*Sex of Partner*Sibling Status		0.34	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.83	ns
Parent Condone to	34		
Verbal Assertion			
Sex of Actor		0.00	ns
Sex of Partner		4.64	.001
Sibling Status		-3.18	.01
Time		3.20	.01
Sex of Actor*Sex of Partner		-0.58	ns
Sex of Actor*Sibling Status		-0.69	ns
Sex of Partner*Sibling Status		0.48	ns
Time*Sex of Actor		0.04	ns
Time*Sex of Partner		0.26	ns
Time*Sibling Status		-4.13	.001
Sex of Actor*Sex of Partner*Sibling Status		-0.08	ns
Time*Sex of Actor*Sex of Partner		-1.96	.10
Time*Sex of Actor*Sibling Status		-0.48	ns
Time*Sex of Partner*Sibling Status		-0.69	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.81	ns
Parent Ignore to	34		
Verbal Assertion			
Sex of Actor		0.18	ns
Sex of Partner		0.00	ns
Sibling Status		2.24	.05
Time		-1.21	ns
Sex of Actor*Sex of Partner		1.02	ns
Sex of Actor*Sibling Status		0.29	ns
Sex of Partner*Sibling Status		1.09	ns
Time*Sex of Actor		0.70	ns
Time*Sex of Partner		-0.08	ns
Time*Sibling Status		3.70	.001
Sex of Actor*Sex of Partner*Sibling Status		1.07	ns
Time*Sex of Actor*Sex of Partner		-1.45	ns
Time*Sex of Actor*Sibling Status		0.48	ns
Time*Sex of Partner*Sibling Status		0.85	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.34	ns

Parent No Response to	34		
Verbal Assertion			
Sex of Actor		-1.65	ns
Sex of Partner		-2.32	.05
Sibling Status		1.36	ns
Time		-0.62	ns
Sex of Actor*Sex of Partner		-0.21	ns
Sex of Actor*Sibling Status		0.55	ns
Sex of Partner*Sibling Status		-1.26	ns
Time*Sex of Actor		-0.34	ns
Time*Sex of Partner		0.22	ns
Time*Sibling Status		0.13	ns
Sex of Actor*Sex of Partner*Sibling Status		-1.36	ns
Time*Sex of Actor*Sex of Partner		2.27	.05
Time*Sex of Actor*Sibling Status		-0.37	ns
Time*Sex of Partner*Sibling Status		-0.05	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		-0.92	ns
Parent Ambiguous to	34		
Verbal Assertion			
Sex of Actor		-0.21	ns
Sex of Partner		0.90	ns
Sibling Status		-0.29	ns
Time		-1.74	ns
Sex of Actor*Sex of Partner		0.06	ns
Sex of Actor*Sibling Status		-0.62	ns
Sex of Partner*Sibling Status		1.03	ns
Time*Sex of Actor		-0.76	ns
Time*Sex of Partner		-1.31	ns
Time*Sibling Status		0.00	ns
Sex of Actor*Sex of Partner*Sibling Status		0.49	ns
Time*Sex of Actor*Sex of Partner		-0.17	ns
Time*Sex of Actor*Sibling Status		1.56	ns
Time*Sex of Partner*Sibling Status		-1.95	ns
Time*Sex of Actor*Sex of Partner*Sibling Status		0.00	ns

Table D4
Bivariate Correlations between Older (O) and Younger (Y) Children's Physical Aggression (PA),
Physical Assertion (PS), and Physical Conflict (PAPS) at Time 1 and Time 2

	$\underline{n}$	$\underline{r}$	$\underline{p}<$
O1PA and O1PS	39	.61	.01
O1PA and O1PAPS	39	.65	.01
O1PS and O1PAPS	39	.91	.01
O2PA and O2PS	39	.54	.01
O2PA and O2PAPS	39	.76	.01
O2PS and O2PAPS	39	.91	.01
Y1PA and Y1PS	39	.68	.01
Y1PA and Y1PAPS	39	.75	.01
Y1PS and Y1PAPS	39	.89	.01
Y2PA and Y2PS	39	.39	.05
Y2PA and Y2PAPS	39	.52	.05
Y2PS and Y2PAPS	39	.94	.01