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RELATIONAL AND PHYSICAL AGGRESSION IN LATE CHILDHOOD: LINKS TO  
SOCIAL ADJUSTMENT IN GROUP AND DYADIC RELATIONS

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A Thesis in the Department of Psychology

Presented in Partial Fulfilment of the Requirements  
for the Degree of Master of Arts

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## ABSTRACT

Tanya A. Bergevin

### Relational and Physical Aggression in Late Childhood: Links to Social Adjustment in Group and Dyadic Relations

Relational aggression (RA), thought to be more typical of females, is a form of aggression in which relationships are used as vehicles of harm (Crick & Grotpeter, 1995). This study investigated sex-differences in the prevalence of RA and physical aggression (PA), as well as the group and friendship relations of relationally and physically aggressive children. It was predicted that (a) girls would be rated as more relationally aggressive than boys when extreme group scores of RA were examined; (b) boys would be rated as more relationally aggressive than girls when continuous measures of RA were used; (c) boys would be higher than girls in PA regardless of the assessment measure; and (d) girls would use more RA than PA, whereas boys would use more PA than RA. It was also predicted that (e) relationally aggressive boys and physically aggressive girls would be at heightened risk for peer rejection; (f) aggressive children would have mutual friendships in spite of their lack of popularity; (g) relationally and physically aggressive children would have similarly aggressive friends; and (h) RA and PA would predict lower-quality friendships. Participants were 75 boys and 68 girls (mean age = 12.1 years). Participants nominated their best friends, rated peers on measures of rejection, RA and PA, and described the features of their best friendship. Although overall boys were more physically aggressive than girls, both sexes scored similarly on measures of RA. Moreover, girls were more relationally than physically aggressive, whereas boys were more physically than relationally aggressive. Although both RA and PA predicted rejection for both sexes, relationally aggressive boys tended to be more rejected than relationally aggressive girls. Although aggressive children have mutual friends, they typically befriend similar others. Relationally aggressive boys were more likely to befriend similar others than

were relationally aggressive girls. Neither RA nor PA, however, predicted lower-quality friendships. These findings indicate that the social contingencies associated with RA and PA differ in important ways. Research implications and future directions are discussed.

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## DEDICATION

To my grandmother, Alice Faubert Myers



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## Relational and physical aggression in late childhood: Links to social adjustment in group and dyadic relations

A central premise of current theory on social development is that experiences with peers during childhood and adolescence affect subsequent developmental outcomes (Rubin, Bukowski & Parker, 1998). Within the peer domain, children acquire skills, attitudes and beliefs that influence their psycho-social development and adaptation across the lifespan. Accordingly, experiences with peers act as important socialization agents which, in conjunction with the influence of the family, school, and neighbourhood, contribute to children's emotional well-being and adjustment (Bukowski & Hoza, 1989; Parker & Asher, 1987; Rubin et al., 1998).

The study of peer relations focuses on a collection of experiences and phenomena which can occur at different levels of social complexity. Experiences within the peer domain can influence developmental outcomes in at least two essential ways: (a) through acceptance and rejection by other children in the peer group, and (b) through dyadic relationships, especially with friends (Hartup, 1996; Rubin et al., 1998). Although these levels of social organization are interrelated in that being liked by the peer group (i.e., being popular) enhances a child's chances of having a friend (Bukowski, Pizzamiglio, Newcomb & Hoza, 1996), group and dyadic peer relations are conceptually distinct phenomena that are thought to contribute uniquely to children's psychosocial development (Bukowski & Hoza, 1989; Rubin et al., 1998).

There is little disagreement that negative peer status (i.e., peer rejection) and poor dyadic relationships in childhood are associated with increased risk for later maladjustment

such as dropping out of school, criminality, and psychological dysfunction (Bukowski & Hoza, 1989; Hartup, 1983, 1996; Hoza, Molina, Bukowski & Sippola, 1995; Kupersmidt, Coie & Dodge, 1990; Parker & Asher, 1987). One of the most commonly cited reasons for peer rejection in childhood is aggressive behaviour (Bukowski & Newcomb, 1984; Cairns, Cairns, Neckerman, Gest & Garipey, 1988; Coie, Dodge & Kupersmidt, 1990; Ledingham & Schwartzman, 1984; Rubin et al., 1998). Aggressive children may exhibit behaviours which are discordant with group norms and hierarchical social networks. For example, an aggressive child may push his/ her way into a play/social group without adhering to group norms or respecting social hierarchy. These maladaptive behaviours and lack of social competence may contribute to negative peer perception and poor peer status.

In spite of the well documented association between aggression and rejection by the larger peer group (Coie & Kupersmidt, 1983; Foster, DeLawyer & Guevremont, 1986; Newcomb, Bukowski & Patte, 1993), the association between aggression and peer experiences at the dyadic level has not been extensively studied. Although it seems reasonable to assume that the difficulties experienced by aggressive children in the peer group may “spill over” into their dyadic relationships, less is known about the friendship patterns of aggressive children (Bukowski, Sippola, Hoza, & Newcomb, 1994; Hartup, 1996). Accordingly, the first aim of the current investigation is to assess the association between aggressive behaviour and the experience of friendship. As such, this study is designed to examine whether the friendship experiences of aggressive children differ from those of non-aggressive children.

A second gap in the peer literature results from the practice of defining aggression in strictly physical terms. The operationalization of aggressive behaviour as a physical manifestation of hostility has resulted in the under representation of other non-physical forms of aggressive expression. As such, Crick, Wellman, Casas, O'Brien & Nelson (in press) have argued that the over emphasis on physical forms of aggressive behaviour in the peer literature has resulted in the lack of understanding of the social-developmental contingencies associated with other, non-physical forms of aggression. Because physical manifestations of aggression tend, on average, to be more common among boys (see Maccoby, 1990, for review) less is known about the social implications associated with what some authors have called more "female-typical" forms of aggressive expression (Bjorkqvist, 1994; Crick, 1996; Crick & Grotpeter, 1995). As such, a second goal of the current work is to understand the peer relations of children who exhibit non-physical forms of aggressive behaviour, specifically to understand the influence of more "female-typical" forms of aggression on the experience of friendship.

#### Dyadic Relationships: Understanding Friendships

Although most investigations have focussed on children's experiences within the peer group (e.g., sociometric status) to gauge indices of social competence (Coie & Kupersmidt, 1983; Kupersmidt, et al., 1990), Rubin et al. (1998) argue that social competency within the peer system refers to a child's ability to engage effectively at both the group and dyadic level of social organization. Therefore, a socially competent child must not only: (a) engage in peer group structure and participate in group-oriented activities; but must also (b) participate in satisfying relationships, defined as a succession



of interactions between two individuals who are familiar with each other (Rubin et al., 1998). Although all relationships share central features of commitment and investment (Hinde, 1979, 1995), they vary considerably in nature, form and function.

One type of relationship, namely the relationship of friendship, is thought to play a powerful role in the development of social competency (Berndt, 1982; Bukowski & Hoza, 1989; Sullivan, 1953; Youniss, 1980). Friendships are usually conceptualised as dyadic relationships based on voluntariness, reciprocity, and on an affective bond which fosters feelings of self-worth, empathy, interpersonal understanding, and perspective-taking abilities (Buhrmester & Furman, 1986; Bukowski et al., 1994; Bukowski, Newcomb, & Hartup 1996). Although friendship characteristics may vary across dyads, Youniss (1986) argues that reciprocity and symmetry are the hallmark features in children's friendships. Younger children exhibit mutual imitation, toy sharing and turn taking, whereas older friends may help each other in times of need and develop mutual dependencies (MacDonald, 1996). Friends tend to be committed to each other's requests, emphasizing an atmosphere of cooperation and mutual regard (Bukowski & Hoza, 1989; Krappmann, 1996).

Unlike other relationships within the peer domain, it is argued that friendships provide the unique opportunity to fulfill specific needs, namely the need for intimacy and reliable alliance (Hoza et al., 1995). In addition, the experience of friendships may foster skills such as cooperation, reciprocal exchange, fairness and conflict management (Hoza et al., 1995; Newcomb & Bagwell, 1996). Finally, similar to arguments linking positive peer group experiences to increased adjustment in later life, friendships, in particular, may

act as sources of resiliency and strength for children (Bagwell, Newcomb & Bukowski, 1998). Friendships may protect children from the negative outcomes associated with other life stressors, namely, a difficult or potentially harmful family environment (Gauze, Bukowski, Aquan-Assee & Sippola, 1996; Sullivan, 1953).

### The Process of Friendship Formation

Hartup (1996) has stated that children's friendships are based largely on similarity of interests and fulfilment of needs. Similarity between friends derives in part from selection choice, that is, the tendency among individuals to choose associates who resemble themselves (Hartup, 1997). Reinforcement theorists have argued that interpersonal similarity stems from the reward associated with the recognition by individuals of common statuses and values, and the aversiveness associated with the recognition of status dissimilarities (Rosenbaum, 1986). Building from the similarity-attraction, and by extension, the dissimilarity-repulsion hypothesis, Boivin, Dodge & Coie (1995) have described a notion of "fit" between individuals as a critical feature of the process of liking. In short, children tend to select friends who possess behavioural characteristics which are similar to their own (MacDonald, 1996; Rubin, Lynch, Coplan, Rose-Krasnor & Booth, 1994).

The issue of similarity in children's friendship choices has been especially emphasized in the study of physically aggressive children. It has been reported that maladjusted children, specifically aggressive children, tend to befriend other similarly maladjusted children, whereas prosocial children befriend other prosocial children (Kupersmidt, Derosier, & Patterson, 1995; Poulin, Cillessen, Hubbard & Coie, 1997; Ray,

Cohen, Secrist & Duncan, 1997). One interpretation of this phenomenon is that individuals are attracted to similar others because they provide a comparable behavioural match as well as a guide for behavioural standards (Sabongui, 1997).

In addition to the similarity-attraction process, a process of default (Berndt, 1992) may also account for why maladjusted children specifically, tend to befriend similar others. Because they are rejected by their peers, maladjusted children are forced together, which by default, may promote friendship formation between them. In other words, according to the default hypothesis maladjusted children befriend other maladjusted children because the pool from which they must select a friend is relatively restricted to similar others (Berndt, 1992). Therefore, although maladjusted children, such as physically aggressive children, may have friends, they may have fewer friends due to limited opportunities for conventional friendship relations.

Moreover, physically aggressive children may engage in fewer friendships because they lack some of the social skills central to friendship formation. Making and keeping friends depends largely on one's ability to engage in behaviours which promote friendship such as perspective-taking, conflict resolution skills and mutual negotiation. Maladjusted children, especially aggressive children, may not possess the skills necessary to participate in positive, stable friendships, and thus, may again be forced to befriend similarly maladjusted others (Coie & Dodge, 1998; Dishion, Patterson & Griesler, 1994). Consequently, friendship affiliation between maladjusted children, may further promote maladjustment within the dyad. For example, aggressive children in a friendship dyad may reinforce one another's negative behaviour, or normalize aggressive behaviour, which

may exacerbate it to levels which it may not have been reached individually (Hartup, 1996; Tremblay, Masse, Vitaro, & Dobkin, 1995).

As such, there may be some serious limitations to the assumption that friendships are always positive experiences that foster social competence and well-being. First, having friends is usually equated to having good, positive and supportive friends (Bukowski, Newcomb & Hartup, 1996). Although good friendships may be critically important during development, some authors have argued that friendships themselves may have a negative impact on children (Berndt, 1992; Hartup, 1996; Hoza et al., 1995). As Shantz (1986) has reported, friendships can be a source of individual conflict, leading to heightened levels of anxiety and distress. In fact, children overwhelmingly cite conflicts with their friends as the most salient source of stress in their lives (Bowker, 1997; Siddique & D'Arcy, 1984).

A second limitation to the assumption that friendships act only as positive socializing agents, results from the correlational nature of most investigations in the social-developmental domain (Berndt, 1982; Bukowski & Hoza, 1989). Although having friends may indeed contribute to an overall sense of well-being, self-worth and self-confidence, it may be that these traits enhance friendship formation by making children who possess them more attractive to their peers. On the other hand, children who lack socially attractive traits may forego competence-building experiences with peers, which may in turn lead to greater social maladjustment.

### The Three - Factor Model of Friendship

Hartup (1996) has stressed the importance of studying friendship from a multidimensional perspective. Although, traditionally most investigations have focussed on the importance of having a friend versus not having one, Hartup has highlighted other important features of children's friendships. According to the author, it is not only (a) whether you have a friend, but (b) who that friend is, as well as (c) the quality of the friendship relationship which are important in determining the developmental sequelae of the friendship experience.

Having friends versus not having friends. It has been argued that children who have friends are more socially-competent and less troubled than children who do not (Hartup, 1993; Newcomb & Bagwell, 1995). Friendless children are reported to be more sociable, cooperative, self-confident, and less lonely (Parker & Asher, 1993). In addition, Bagwell, Newcomb and Bukowski (1998) have demonstrated that having friends in childhood is associated with positive aspects of adjustment in adulthood. Although Hartup (1996) has claimed that "children who do have friends are seldom worse off than children who do not", he has, however, also stressed the important limitations associated with making developmental predictions when the friend/friendless dichotomy is assessed in a vacuum.

As discussed earlier, friendships, under certain circumstances, may exert negative influences on development (Berndt, 1992). Hoza et al. (1995) have demonstrated that aggressive children with mutual friends were at greater risk for externalizing problems than aggressive children without mutual friends. Contrary to the hypothesis that mutual

friendships would buffer against maladjustment, mutual friendships, at least in the case of aggressive children, seem to do the opposite. As such, statements about developmental differentiation between friended and friendless children may be premature in the absence of further information concerning a child's individual characteristics, the characteristics of their friends as well as the nature of their friendship relations.

The characteristics of children's friends. With whom does a child become friends? Can the identity of a child's friend be forecast from what we know about the child? As mentioned earlier, children make friends on the basis of common activities and common interests, and are often similar to each other in many ways (Dishion, Andrews & Crosby, 1995; Hartup, 1996). Although who is befriended depends largely on how similar a child judges a potential friend's characteristics, it is not clear which traits or behaviours are salient to a child's assessment that a potential friend is "just like me" (Hartup, 1996; Rubin et al., 1994).

Although traits like age, sex and race are central to a child's assessment of similarity (Epstein, 1989), behavioural characteristics of a child are equally important (Kupersmidt, Derosier & Patterson, 1995). Among a child's behavioural repertoire, the behaviours that are selected to gauge similarity between individuals are usually behaviours which are reputationally-salient (i.e., those that are determinants of a child's social reputation) (Hartup, 1996). Robert Challman (1932) reported over 60 years ago that children befriend others who are concordant on behaviours that are central to their reputation such as prosocial or aggressive behaviours. Challman collected behavioural ratings which demonstrated that social cooperation, an attribute with considerable

reputational salience, was more concordant among friends than was intelligence, an attribute with less reputational salience in early childhood.

More recently, Haselager, Hartup, Van Lieshout and Riken-Walraven (1995) reported that behavioural concordance among school-age children and their friends is greater than among children and non-friends. Haselager et al. (1995) studied fifth-graders' peer-ratings of prosocial behaviour, anti-social behaviour, and social withdrawal. Results indicated that friends were more similar than non-friends within each construct. Interestingly, correlations between friends were greater for anti-social behaviour (e.g., fighting, disrupting and bullying) than for both prosocial and withdrawn behavioural profiles. These results are consistent with Coie, Dodge and Kupersmidt's (1990) findings that physical aggression is more salient to children's social reputation than either cooperation or shyness. In short, the characteristics of friends seem to depend on one's own characteristics, which may translate into heterogeneous friendship experiences for different children.

Friendship Quality. Also fundamental to our understanding of the influence of friendship on development is the notion of friendship quality (Bukowski & Hoza, 1989). Berndt (1996) defines friendship quality as the simultaneous assessment of positive and negative dimensions of friendship features. The general consensus across inquiries is that features of children's friendships reflect: (a) the opportunity for play, companionship, and recreation; (b) the degree of intimate disclosure and exchange; (c) the extent to which friends share, help and guide one another; and (d) the extent to which children find the relationship validating and enhancing of self-worth (Berndt & Perry, 1986; Buhrmester &

Furman, 1987; Bukowski et al., 1994; Parker & Asher, 1993).

Some friends base their relationships on mutual support and closeness, whereas others become friends for purposes of companionship and aid. Not all friendships, however, are based on such positive qualities, some friendships are riddled with conflict and may act as a source of stress for its members. Furthermore, Berndt (1992) demonstrated that positive and negative friendship qualities were correlated with school adjustment among adolescents. Students with supportive, intimate friendships were found to be more involved with school, whereas those who considered their friendships to be conflict ridden and rivalrous were increasingly disruptive and troublesome in the school setting. In addition, Buhrmester (1990) has demonstrated that the quality of friendships is integrally related to adjustment and interpersonal competence in adolescence. Moreover, Parker and Asher (1993) have shown that the quality of children's best friendships significantly predicts the experience of loneliness. Taken together, these findings suggest that friendship quality plays an important role in children's psychosocial development and feelings of well-being.

#### The Friendships of Physically Aggressive Children

Previous research has shown that aggressive children engage in reciprocated friendships (Dishion et al., 1995; Giordano, Cernkovich & Pugh, 1986; Hartup, 1996; Kupersmidt et al., 1995; Parker & Asher, 1993). It has also been shown that aggressive children, like their non-aggressive counterparts, are likely to befriend children who match their reputationally-salient behaviours; that is, aggressive children tend to befriend other aggressive children (Cairns et al., 1988; Dishion et al., 1995; Hartup, 1996). Although



aggressive children tend to engage in mutual friendships, they report a different quality of friendship than those of non-aggressive children. Crick et al. (in press) have stated that the friendships of physically hostile children are typified by low levels of intimacy, as well as by coalitional acts in which the two friends may join forces to “gang- up” aggressively on other children. In addition, Berndt (1992) has argued that aggressive children’s friendships are themselves often conflictual and volatile in nature. Similarly, Cairns et al. (1988) and Dishion et al. (1995) have also shown that the friendships of aggressive children are more contentious and less stable than those of non-aggressive children. Although better quality friendships may theoretically serve as a protective factor for maladjusted children, in reality maladjusted children are less likely to have high-quality friendships, and thus, may not benefit from the potential corrective experiences that high-quality friendships provide (Parker & Asher, 1993).

#### The Inclusion of Girls: Understanding Relational Aggression

Earlier research has reflected the notion that female aggression was so infrequent in nature that the cost of studying such a phenomenon vastly outweighed potential gains (Buss, 1961, Olweus, 1977, 1979). Of the 314 studies on human aggression reviewed by Frodi, Macaulay & Thome (1977), 54% of the publications solely concerned men, as compared to 8% for women. Although attempts have been made in the last 20 years to achieve a more gender-balanced understanding of aggressive behaviour (Archer, Pearson & Westeman, 1988; Barrett, 1979), females remain under represented in current literature (Crick et al., in press). Although most writers have agreed that aggressive behaviour consists of behaviours in which a perpetrator inflicts harm onto another organism, the

typical focus on physical aggression has meant that other forms of aggression, such as those that are more characteristic of females than males, have been widely ignored (Bjorkqvist, 1994; Bjorkqvist & Niemela, 1992; Crick, 1996; Crick & Grotpeter, 1995; Crick et al., in press; Lagerspetz, Bjorkqvist & Peltonen, 1988).

In their extensive review of sex-differences in aggression, Maccoby & Jacklin (1974) concluded that from two or three years of age, boys are more physically aggressive than girls. The authors argue that such gender differences are consistent across a wide range of cultures, and are apparent into adulthood. Similar differences have been reported in more recent reviews, with boys on average emerging as more physically aggressive than girls (Hyde, 1984; Maccoby, 1990; Maccoby & Jacklin, 1980), a finding which has been replicated with children from preschool and elementary school ages through to mid-adolescence (Bjorkqvist, Lagerspetz & Kaukiainen, 1992; Crick, Casas, & Mosher, 1997; Mcneilly-Choque, Hart, Robinson, Nelson & Olsen, 1996). Given the research emphasis on physical aggression then, girls have generally been thought of as non-aggressive.

Although females are, on average, less physically aggressive than males, the notion that females are non-aggressive has declined in recent times with many authors stressing a qualitative, as opposed to a quantitative difference in girls' and boys' aggressive behaviour (Bjorkqvist & Niemela, 1992; Crick & Grotpeter, 1995; Crick et al., in press; Eagly & Steffen, 1986; Hyde, 1984). Contemporary research has indicated that the magnitude of gender differences in aggression depends largely on how aggression is defined. Crick & Grotpeter (1995) have reported that when the definition of aggression is expanded to include "relational" aggression, similar numbers of boys and girls are rated as aggressive

by their peers.

### Defining Relational Aggression

Harré & Lamb (1983) report that over 250 different definitions of aggression exist in the psychological literature. In general, the two common features of these definitions include (a) the notion that an aggressive act is perceived negatively by the victim, and (b) the aggressive behaviour must be intentional, where the goal is to physically or psychologically harm a victim. Using these general operational features, Crick and Grotpeter (1995) defined a style of aggression that tends to be more typical of females than of males. This style of aggression, which they termed relational aggression, consists of behaviours that harm through damage, or threat of damage to relationships, friendships, or group inclusion (Crick, 1996; Crick & Grotpeter, 1995; Crick et al., in press). Thus, relational forms of aggression include social manipulations in which relationships are used as vehicles to inflict harm by the perpetrator. Relationally aggressive behaviours may include rumour spreading, gossiping, withdrawing or threatening to withdraw one's friendship unless some demand is met, as well as various social exclusion tactics designed to influence peers against a victim.

In addition to its distinctiveness from physical aggression, relational aggression can also be distinguished from other forms of hostile behaviour such as indirect or social aggression (Crick et al., in press). Indirect aggression involves harmful behaviour in which the perpetrator and the target do not interact directly (Lagerspetz et al., 1988). As such, indirect and relational forms of aggression may overlap, for example, tactics for both may involve rumour spreading or ignoring the victim. Although relational aggression may

be indirect, it may also involve direct tactics such as the withdrawal or threat of withdrawal of one's friendship (e.g., I won't be your best friend if you don't...), or the exclusion of the victim from a particular group or clique (Crick et al., in press). For the sake of clarity, it is vital that the construct of relational aggression be distinguished from that of indirect aggression. Whereas the latter focuses on non-confrontational hostile behaviours, relational aggression includes all hostile acts in which relationships are used as the vehicle of harm, regardless of whether this is done directly or circuitously.

Relational aggression can also be contrasted with social aggression which consists of behaviours which are designed to damage a victim's self-esteem or social status (Galen & Underwood, 1997). Social aggression encompasses behaviours such as verbal insults designed to embarrass a target, negative facial expressions and body movements, as well as more indirect forms of aggression such as slanderous rumour spreading (Galen & Underwood, 1997). Socially aggressive behaviours may also be physical in nature within the context of the "practical joke", where the goal may be to negatively impact the target's social status (i.e., social standing on the group level of social organization). In short, many relationally aggressive acts can also be socially aggressive, but unlike relational aggression, social aggression does not specifically target relationships to hurt the victim.

#### The Gender Debate: Who Is Relationally Aggressive?

According to Bjorkqvist (1994) non-physical forms of aggression in general are more useful to girls because they are more "cost-effective". The cost-effect ratio, in this context, is an expression of the subjective estimation of the likely reward or "pay off" of

an aggressive act relative its social consequences. An aggressor must assess the relationship between the effect of the intended strategy, as well as the danger associated with aggressive expression. The objective is to find a technique that will be effective, while putting one in as little danger as possible. Although physical aggression may be effective, it may also be risky. According to Bjorkqvist females realize the increased danger associated with their smaller physical stature, and opt for a less costly alternative such as staying out of their opponents' reach by using non-physical means.

Although this may account for why females avoid physical confrontations with males who are generally larger and stronger, it does not explain why they also do so with other females, who are of comparable size and strength. Another explanation for females' use of non-physical aggressive strategies is simple differential socialization for boys and girls. Females may use non-physical tactics because displays of physical aggression towards any target (e.g. male or female) are socially unaccepted behaviours for females in our society. According to White & Kowalski (1994) the "cherished myth of the dominant male and submissive female" remains very much a part of our cultural ideology. Popular beliefs about female aggression, as reported by Macaulay (1985), include the notion that women are non-aggressive, "sneaky" in their expression of aggression, unable to express their anger, and psychologically distressed if they are aggressive. In order to maintain normative social mores, females are socialized to suppress physical aggression while taught that more subtle, non-physical expressions of hostility are somewhat more tolerated (Macaulay, 1985).

Paralleling Bjorkqvist's (1994) notion of "cost-effectiveness" in the selection of

aggressive strategies, it has also been argued that children adopt aggressive styles which prove the most damaging by their respective same-sex group (Crick & Grotpeter, 1995). Within the peer group, girls and boys experience different patterns of friendship and affiliation which may relate to differences in the types of aggressive strategies which are salient within their respective same-sex peer groups (Lagerspetz et al., 1988). Whereas boys tend to form looser associations based on shared activities and goals of hierarchical group dominance (Belle, 1989; Block, 1983), girls generally belong to tighter peer networks or cliques in which goals include enhancing one's social status through relationships (Crick & Grotpeter, 1995). Indeed, relationally aggressive tactics have been shown to be the most commonly used aggressive strategy among school-aged girls (Bjorkqvist, 1994; Bjorkqvist et al., 1992; Crick, 1997; Crick and Grotpeter, 1995). Furthermore, school-aged girls have been found to be more relationally aggressive than their male class-mates (Bjorkqvist et al., 1992; Crick and Grotpeter, 1995; Lagerspetz et al., 1988).

Relational aggression, in short, may be a more useful strategy for girls because of the importance of relational issues in girls' peer groups. When relationships are close, as they tend to be with girls, intimacy and self-disclosure are more likely; personal information gained may later be used against a selected victim (Bjorkqvist et al., 1992; Crick & Grotpeter, 1995; Lagerspetz et al., 1988). Furthermore, when relationships are considered close and important, the threat of peer-loss may be viewed as highly damaging. Thus, because of its efficacy, relational aggression may be facilitated within female peer networks during late childhood and adolescence.

Not all authors, however, have concluded that school-aged girls are more relationally aggressive than their male counterparts. Henington, Hughes, Cavell, & Thompson (in press) investigated the relationship between relational and physical aggression in boys and girls in the second and third grades. For both sexes, the authors hypothesized that both forms of aggression would be moderately and positively correlated. They also thought that girls would be more relationally, and less physically aggressive than the boys in their class. Results indicated a stronger correlation than was predicted between relational and physical aggression for the entire group, boys, and girls ( $r = .64$ ,  $r = .69$ ,  $r = .58$ , respectively). Moreover, as predicted, girls tended to display more relational than physical forms of aggression. More importantly, however, results showed that on average boys, not girls, were found to be more physically and relationally aggressive.

According to Rys & Bear (1997) the common finding that girls exhibit higher levels of relational aggression may depend largely on the measurement technique employed. When the authors examined the mean differences between girls' and boys' relational aggression scores, they found no significant gender difference. However, when they replicated procedures used by Crick & Grotpeter (1995) and classified children into groups of highly relationally and physically aggressive children (operationalized as scores falling one standard deviation above the class mean), girls were found to be significantly more relationally aggressive than boys.

Similar to results yielded by Henington et al. (in press), Tomada & Schneider (1997) reported that among a sample of 314 Italian children from grades three and four,

boys scored higher on measures of both relational and physical aggression. Interestingly, the analysis of sex-differences were based on a continuous measure of relational aggression, and not on an extreme classification of aggressive children. It seems possible then, that the inconsistent findings regarding cross-sex comparisons may result, at least in part, from the different distributions of relational aggression among boys and girls. That is, although boys may be more relationally aggressive on average, there may be more girls who are extremely relationally aggressive, and thus, different measurement methodologies (i.e., those using continuous vs. extreme group scores of aggression) may yield different results.

Another issue of current relevance is the relationship between the constructs of relational and physical aggression. Tomada and Schneider (1997) cite the fact that very high correlations were found between physical and relational forms of aggression for boys ( $r = .84$ ), but not for girls ( $r = .60$ ). As such, Tomada and Schneider argue that, at least for males, the two forms of aggression did not represent distinct constructs. According to the authors, whereas the construct of relational aggression is useful in the understanding of female psycho-social development, it may be of limited interest with respect to boys. However, even if relational and physical aggression are highly correlated with one another, to conclude that they represent the same construct may be shortsighted. In order to conclude that two measures represent the same underlying latent construct certain conditions need to be met. First, one needs to demonstrate strong inter-correlations between the measures, and second, one must show that these measures relate to other measures in the same way (Cronbach, 1951). Based on this set of criteria then, two



measures are distinct if they are differentially predictive of other measures, even when the intercorrelation between them is high.

### The Friendships of Relationally Aggressive Children

Because of the research emphasis on the social consequences associated with physical forms of aggression, less is known about the peer experiences of relationally aggressive children. Findings to date have largely demonstrated that relational aggression is also significantly associated with rejection during middle and late childhood (Crick, 1996; Crick & Grotpeter, 1995; Crick et al., in press; Rys & Bear, 1997; Tomada & Schneider, 1997). To investigate whether the peer-group adjustment difficulties of relationally aggressive children extend into their dyadic relationships, Grotpeter and Crick (1996) assessed relationally aggressive children's participation in friendships, as well as the quality of these relationships. Overall, results demonstrated that relationally aggressive children, similar to their physically aggressive counterparts, were as likely as non-aggressive children to engage in mutual friendships. However, an unexpected gender difference was found: Whereas relationally aggressive girls did not differ from non-relationally aggressive girls in their chances of having a mutual friend, relationally aggressive boys were less likely to have a mutual friend than were non-relationally aggressive boys. According to Grotpeter & Crick, it appears that the social difficulties of relationally aggressive boys may be more extensive than that of their female counterparts.

The differential social contingencies associated with gender-typical vs. non-typical displays of aggression, are also apparent on the group level of organization. According to Verlaan (1995), children who select non-gender stereotyped aggressive strategies are less-

liked by their same-sex peers. Because “children’s evaluations of one another are increasingly influenced by the adult culture’s traditional sex-role expectations as they advance to adolescence” (Schwartzman, Verlaan, Peters & Serbin, 1995), children who don’t adhere to traditional sex-role norms concerning the expression of aggression tend to be at greater risk for peer rejection and negative outcomes. This is consistent with Crick’s (1997) findings that children who engage in non-normative forms of aggression (i.e., girls who are physically aggressive and boys who are relationally aggressive) were more socially and emotionally maladjusted than were children who engaged in “gender-normative” forms of aggression.

In addition to assessing relationally aggressive children’s participation in friendships, Grotper and Crick (1996) also investigated the friendship qualities of these relationships. Using Parker and Asher’s (1993) friendship quality questionnaire, results showed that children high in relational aggression report higher levels of closeness and self-disclosure in their friendships. Interestingly, relationally aggressive children also state that their friends self-disclose much more than they do themselves. It may be that relationally aggressive children seek out personal information from their friends which can be used against them at a later time.

Although preliminary investigations into the friendship patterns of relationally aggressive children have been fruitful, issues related to whom relationally aggressive children befriend represents an important gap in our knowledge. To date, there has been only one published report describing the friends of relationally aggressive children. Preliminary descriptive results from O’Brien & Wellman (1997) indicated that relationally

aggressive children were just as likely to have a non-relationally aggressive friend, as they were a relationally aggressive friend.

The lack of information concerning the friends of relationally aggressive children, with the exception of the preliminary investigation noted above, leaves central questions unanswered. Can a child's index of relational aggression forecast that of their friends? Because relational forms of aggression, relative to physical, are less tangible and more covert, they may be less available as a "bench-mark" on which to assess similarity. As such, relationally aggressive children may be less likely, relative to physically aggressive children, to befriend similar others. On the other hand, relationally aggressive children are also reported to be rejected by the larger peer group (Crick, 1996; Crick & Grotpeter, 1995; Crick et al., in press; Rys & Bear, 1997; Tomada & Schneider, 1997), which indicates that their maladaptive behaviour is detected, at least at some level, by their peers. In short, the identity of whom relationally aggressive children select as friends remains largely unknown.

### Overview of Rationale

Peer experiences are crucial for normal psycho-social development. Physically as well as relationally aggressive children are typically not well liked by the peer group. The rejection they may experience is often associated with concurrent as well as future maladjustment (Crick, 1996; Crick & Grotpeter, 1995; Kupersmidt et al., 1990; Parker & Asher, 1987)

Physically aggressive children are not, however, friendless. Although friendships are thought to promote psycho-social growth and well-being, not all friendships exercise

positive influences on an individual. Depending on the characteristics of one's friends as well as the quality of the relationship, friendships can be detrimental in nature (see Hartup, 1996 for review). Evidence shows that physically aggressive children tend to befriend other physically aggressive children. Furthermore, their friendships are thought to be different in nature than those of their non-aggressive counterparts (Berndt, 1992; Crick et al., in press). Thus, although overtly aggressive children have friends, they do not necessarily profit from the potential benefits of the friendship experience (Berndt, 1992; Hoza et al., 1995).

The study of childhood aggression has traditionally focussed upon physical forms of aggression. As such, less is known about other non-physical manifestations of aggression. Relational aggression, in particular, has sparked much interest in the field of social development because it allows one to part with the myth of the non-aggressive female. There is little argument that, on average, females exhibit relational aggression more so than overt forms. This says little, however about the incidences of relational aggression in girls compared to boys. Although most authors believe that girls are more relationally aggressive than boys, this finding may result from measurement methodologies which focus only on extreme groups (Rys & Bear, 1997).

Preliminary evidence has suggested that relationally aggressive children follow the same social pattern as their physically aggressive counterparts. First, it is thought that relationally aggressive children are not well liked by their peers and thus, may also experience the detrimental consequences of rejection (Rys & Bear, 1997; Tomada & Schneider, 1998). Second, although they experience problems with the larger peer group,

they do seem to engage in reciprocal friendships (Crick & Grotpeter, 1995). It is not clear, however, “who” relationally aggressive children befriend, or which qualities are present (or absent) in their friendship relations.

### Research Hypotheses

The present study sought to investigate the group relations and friendship patterns associated with relational and physical aggression. Specifically, investigative goals include determining: (a) whether sex-differences exist in the prevalence of relational and physical aggression; (b) whether relational and physical aggression predict peer rejection for boys and girls in the same way (c) whether relationally and physically aggressive children engage in mutual friendships; (d) whether their friends are similarly aggressive; and (e) which features characterize their friendships.

First, it is hypothesized that school-aged girls, relative to their male counterparts, will receive higher same-sex peer-ratings on measures of relational aggression when extreme group scores are assessed. In other words, it is expected that more girls will be rated as relationally aggressive when extreme groups of children are compared (i.e., children falling at or above the 75<sup>th</sup> percentile rank on measures of aggression). In contrast, when all boys and girls are compared using a continuous measure of relational aggression, it is expected that boys will emerge as more relationally aggressive. Furthermore, it is predicted that boys will be rated as more physically aggressive than girls regardless of the type of measurement employed (i.e., continuous or extreme group scores). Besides cross-sex comparisons of the prevalence of relational and physical aggression, within-sex comparisons of both styles of aggression will also be examined. It

is expected that girls will be more relationally than physically aggressive, whereas boys will be more physically than relationally aggressive.

Second, it is hypothesized that relational aggression will predict rejection by the larger peer group, but that this relation will be stronger for boys than for girls. Similarly, it is also expected that physical aggression will predict peer rejection, but that this relation will be stronger for girls than for boys. That is, by engaging in non-gender typical forms of aggressive behaviour, it is thought that relationally aggressive boys, and by extension physically aggressive girls, may be at heightened risk for peer rejection.

Third, it is expected that relationally aggressive children, similar to physically aggressive children, will have the same chance of engaging in a mutual friendship as non-aggressive children. Because aggressive behaviour and the likelihood of having mutual friends has been found to be related to levels of group acceptance (Bukowski et al.,1996), indexes of social acceptance (i.e., popularity) will be controlled for in the current analysis.

Fourth, based on extrapolations from the literature concerning the peer-relations of physically aggressive children, it is thought that relationally aggressive individuals will befriend other similarly aggressive children. In other words, just as children's physical aggression is expected to positively predict their friend's physical aggression, it is hypothesized that children's relational aggression will positively predict their friend's relational aggression.

Finally, it is thought that relational and physical aggression will predict, overall, lower-quality friendships. Moreover, it is thought that both forms of aggression will predict increased conflict in friendships, and that relational aggression, specifically, will

predict increased closeness in children's friendships. Closeness is thought to promote self-disclosure and information sharing, processes which may be emphasized in the friendships of relationally aggressive children.

## Method

### Overview

The participants for this study were part of a larger, longitudinal study on children's peer relationships and adjustment during the transition from elementary to high school. Three data collections for the larger project occurred over a 2-year period. The first and second meetings were respectively held in the fall and spring of the participant's sixth grade school year. The third data collection was held in the fall of the participant's first year of secondary school. The data for the current investigation were compiled during the first (i.e., time 1) of the 3 data collections.

### Participants

Participants in this study were 6<sup>th</sup> grade elementary school children (N=143) from 4 schools in an English-speaking, middle-class suburb of Montreal. The mean age for the 68 girls and 75 boys who participated was 12.1 years, with a range of 11.6 to 13.2 years of age. Of the potential pool of subjects available, 82% of the children participated. Informed consent for this investigation was obtained from parents as well as from the children themselves (see Appendixes A and B, respectively). Ethical approval for this study was obtained from the institutional review board of Concordia University.

### Procedure

During the data collection at time 1, questionnaires (see Appendix C) were administered to the participants using a group administration procedure in their homerooms. All instructions were read aloud while the participants marked their responses privately at their desks. Participants were encouraged to work quietly and



carefully while experimenters circulated through the classroom to promptly answer any questions individually.

### Measures

Sociometric Questionnaire: Nomination Techniques. Each child was given a list of all participating classmates. From this list children were asked to write down in descending order of preference the names of their best friends with their very best friend occupying the first position. Although 5 spaces were provided to do so, participants were instructed that they could write down as many or as few names as they desired. These nominations were used to score participants on the dimensions of mutual friendship and social acceptance/popularity. Mutual or reciprocated friends were individuals who were nominated as a child's first, second or third best friend, and who had, in turn, also nominated the child as their first second or third best friend. The mean number of reciprocated friendships was  $M=1.29$  ( $SD = .99$ ), with 74.8% of participants ( $N=107$ ) engaging in mutual friendships. Also using a nomination procedure, social acceptance/popularity was defined as the number of times a child was selected as a friend by other children in his/her class. Participants received a mean of  $M=4.2$  ( $SD=2.66$ ) friendship nominations which ranged from 0 to 11 nominations in the current sample. Indexes of social acceptance/popularity were standardized separately within class and sex in order to permit cross-class and cross-sex comparisons.

Sociometric Questionnaire: Rating Scales. Participants also rated their classmates' behaviour on several dimensions of social functioning and adjustment. Each child was provided with an alphabetized roster of same and other-sex participating classmates.

Using an item-by-peer matrix, each child rated all participating classmates on a five point scale (i.e., where 1 = not at all, and 5 = very much) to assess how well each item described the individuals on the list. Of the 21 peer-rated items on the sociometric questionnaire, those reflecting the constructs of: (a) peer rejection; (b) physical aggression; and (c) relational aggression were retained for analysis in the current investigation.

First, peer rejection was measured using the total number of lowest ratings (i.e., ratings of 1) that a child received from peers on the item “Someone that I like” ( $M = .92$ ;  $SD = 1.44$ ). Second, 3 items reflecting physical aggression were adapted from Masten, Morrison and Pellegrini’s (1985) revised class play, an instrument designed to assess peer perceptions of behavioural attributes by asking members of a class to identify the classmate best suited to play a role in a hypothetical class play. Items measuring physical aggression were: (a) “A person who gets into a lot of fights”; (b) “Somebody who picks on other kids”; and (c) “Someone who pushes other kids around”. Participants received a mean physical aggression score of  $M = 1.77$  ( $SD = .69$ ), with ranged from 1.04 to 4.56 for boys, and from 1.00 to 3.77 for girls. Internal consistency for the physical aggression measure was  $\alpha = .92$ . Third, the 2 items used to index relational aggression were taken from a measure developed by Crick and Grotpeter (1995), they were: (a) “Someone who tells their friends they will stop liking them unless the friends do what they want”; and (b) “Someone who spreads gossip about someone when they are mad at them”. Participants received a mean relational aggression score of  $M = 1.74$  ( $SD = .4781$ ), which ranged from 1.00 to 2.83 for boys, and from 1.00 to 4.00 for girls. Internal consistency for the relational aggression measure was  $\alpha = .76$ .

Although participants rated same and other-sex peers on the dimensions noted above, only same-sex ratings were retained for analysis in the current investigation. It is thought that school-aged children tend to socialize primarily within their own sex groups to form unique subcultures with distinct sex-typed interactive styles (Archer, 1992; Bukowski, Gauze, Hoza & Newcomb, 1993; Maccoby, 1990; Thorne, 1986). As such, these distinct interactive styles lead to potential differences between same and other-sex children's social perceptions of their peers. Evidence suggests that same-sex ratings are not only less variable than other-sex ratings (Bukowski et al., 1993), but that they also provide a more accurate index of individuals' social behaviour.

Friendship quality scale. Bukowski, Hoza and Boivin's (1994) friendship quality scale (FQS) is a multidimensional instrument designed to assess positive and negative features of children's and young adolescent's relationships with their perceived best friend. Children were instructed to complete the FQS by describing their experiences with the person whom they consider to be their very best friend. To ensure that children described their very best friendship, participants were instructed that they could name any friend, even if that friend attended another school or lived in another city.

The features of the FQS are assessed according to 5 conceptually meaningful aspects of the friendship relation described by central dimensions of *companionship*, *conflict*, *help*, *closeness* and *security*. All items on the FQS were measured using a Likert-type scale in which "1" meant that an item was not true about the relationship with their perceived best friend, and "5" meant it was really true. Subscale scores were calculated from the arithmetic mean of the ratings a subject gave to the items that made up

a particular subscale. The mean rating of friendship quality was  $M=4.23$  ( $SD= .54$ ). See Appendix D for a listing of items on each subscale, and Appendix E for the intercorrelations between subscales.

The first subscale of *companionship* reflects an emphasis on play and association in children's friendships (Bukowski et al., 1994). On the friendship quality scale, companionship is measured by items that focus on the amount of voluntary time children spend with their best friend (e.g., "Sometimes my friend and I just sit around and talk about things like school, sports, and things we like"). Mean rating for the companionship subscale was  $M=4.01$  ( $SD= .89$ ).

The second subscale of *conflict* is correlated with the continuity and termination of friendship. Items reflecting conflict on the FQS indicate that the child gets into fights and arguments with his/her friend, that partners are often annoyed with each other, and that there are disagreement/discord in the friendship relation ( e.g., "I get into fights with my friend"). The mean rating for the conflict subscale was  $M=1.77$  ( $SD= .82$ ).

The third subscale of *help* encompasses 2 main constructs: (a) the construct of aid, indicating mutual help and assistance within the friendship, and (b) a construct of protection, which indicates a friend's willingness to come to a child's aid if another child were threatening or bothering him/her. Items on the help subscale include "My friend would help me if I needed it", and " My friend would stick up for me if another kid was causing me trouble", which reflect the constructs of aid and protection respectively. The mean rating for the help subscale was  $M=4.37$  ( $SD= .67$ ). *Security* is the fourth subscale on the FQS. For children and adolescents, it has been argued that there are 2 main aspects

of the dimension of security within children's friendships, namely: (a) the impression that their friendships are secure and capable of continuing in spite of problems or conflicts; and (b) the belief that they can trust and rely upon their friends (Bukowski et al., 1994). These 2 main aspects of the security subscale are construed as transcending problems and reliable alliance, respectively. Reliable alliance originates from the belief that during times of need, a child can trust and rely upon his/her friend (e.g., "If I have a problem at school or at home, I can talk to my friend about it"). Transcending problems, on the other hand, refers to the belief that if there were a conflict, or some other form of negative event in the friendship relation, that the friendship would be strong enough to withstand the problem (e.g., "If I said sorry after a fight with my friend, he/she would still stay mad at me"). The mean rating for the security subscale was  $M=4.17$  ( $SD=.53$ ).

Finally, the fifth subscale on the FQS is described as the dimension of *closeness*. Closeness, conceptualized as an indication of a child's feelings of acceptance, validation and attachment, and is composed of items which focus on feelings of affection or "specialness" that the child experiences with his/her best friend, as well as the strength of the child's attachment or bond to the friend. Two constructs, referred to as the affective bond and the construct of reflected appraisal, divide the subscale of closeness on the FQS. The affective bond simply refers to a child's feelings towards their friend (e.g., "If my friend had to move away, I would miss him/her"), whereas the construct of reflected appraisal refers to the feelings the child derives from the friendship, and the child's perception of how important he/she is to the friend in question (e.g., "Sometimes my friend does things for me, or makes me feel special"). The mean rating for the closeness subscale was  $M=4.32$  ( $SD=.60$ ).

## Results

### Cross- and Within-Sex Differences of Relational and Physical Aggression Using Continuous Measures

In the first series of analyses, continuous measures of aggression were used to determine (a) whether boys would emerge as more relationally and physically aggressive than girls; and (b) whether boys would be rated as more physically than relationally aggressive, whereas girls would be rated as more relationally than physically aggressive. A within-between mixed-factorial ANOVA with sex as the between-subjects factor and type of aggression (relational vs. physical) as the within-subjects factor was conducted. Due to the directed nature of the current and subsequent hypotheses, one-tailed tests of significance were employed. Although no significant main effect of type of aggression was found,  $F(1,141) = 0.14$ , n.s., results revealed a main effect of sex,  $F(1,141) = 4.50$ ,  $p < .05$ , as well as an interaction effect between sex and type of aggression,  $F(1,141) = 44.90$ ,  $p < .001$ .

Simple effects tests were conducted to clarify the interaction found in the initial analysis. The simple effect of sex was examined for each of the 2 dimensions of aggression separately. The effect of sex was significant for physical aggression,  $F(1,141) = 11.80$ ,  $p < .001$ , but not for relational aggression,  $F(1,141) = 0.19$ , n.s. Specifically, boys were perceived to be more physically aggressive than girls. Means and standard deviations for both forms of aggression in boys and girls are presented in Table 1.

To further clarify any within-sex differences in the prevalence of relational and physical aggression, the simple effect of the type of aggression variable was analysed

Table 1

Means and Standard Deviations for Relational and Physical Aggression by Sex

		<u>M</u>	<u>SD</u>	<u>N</u>
Relational	Boys	1.72	.46	75
Aggression	Girls	1.77	.50	68
Physical	Boys	1.97	.79	75
Aggression	Girls	1.54	.46	68

separately for girls and boys. It was revealed that the simple effect of the type of aggression variable was significant for both boys,  $F(1, 74) = 26.27, p < .001$ , and girls,  $F(1, 67) = 19.12, p < .001$ . As expected, it was found that girls were more relationally than physically aggressive, whereas boys were more physically than relationally aggressive.

#### Cross-Sex Differences of Relational and Physical Aggression Using Extreme Scores (Categorical Measures)

To further investigate the first cluster of hypotheses, the differential frequency of boys and girls at the high extreme end of the aggression spectrum was examined. It was expected that more girls, relative to boys, would emerge as relationally aggressive, and that more boys, relative to girls, would emerge as physically aggressive, when extreme group scores were retained for analysis. Participants, whose same-sex rated relational aggression score was at the 75<sup>th</sup> percentile rank or higher (i.e., at least 0.58 standard deviations above the sample mean), were considered to be relationally aggressive. Accordingly, 18 boys and 19 girls were categorized as relationally aggressive, whereas the remaining 57 boys and 49 girls were considered to be non-relationally aggressive. The same rationale was used to create extreme groups for physical aggression. Thirty-one boys and 8 girls whose physical aggression score ranked at least at the 75<sup>th</sup> percentile (i.e., at least 0.33 standard deviations above the sample mean) were considered to be physically aggressive, whereas 44 boys and 60 girls were found to be non-physically aggressive.

Because a three-way frequency analysis with sex, relational, and physical aggression would result in expected frequencies of  $N < 5$  in some cells, two separate



two-way frequency analyses were conducted to examine potential sex differences in the frequency distributions of both measures of aggression. The computed model for relational aggression had a likelihood ratio of  $\chi^2(1) = 2.89, p = .285$ . Contrary to expectations, no sex-differences were found in the frequency distribution of the relational aggression measure. In the analysis for physical aggression, the model had a likelihood ratio of  $\chi^2(1) = 15.72, p < .001$ . As expected, these results indicated that, similar to the results using continuous measures of aggression, more boys than girls were perceived by same-sex peers as physically aggressive.

#### Relation Between Girls' and Boys' Relational and Physical Aggression and Peer Rejection

The second cluster of hypotheses aimed to examine (a) whether relational aggression would be a stronger predictor of peer-rejection for boys relative to girls; and (b) whether physical aggression would be a stronger predictor of peer-rejection for girls relative to boys. Because initial analyses showed that relational and physical aggression were highly associated for boys,  $r = .80, p < 0.01$ , as well as for girls,  $r = .75, p < 0.01$ , concerns for statistical multicollinearity prevented the inclusion of both aggression variables as predictors in the same regression equation. As such, all subsequent analyses were conducted separately for relational and for physical aggression.

In each multiple regression, sex and the respective aggression variable were entered on the first step, whereas the sex by aggression variable interaction term was entered on the second step. Standardized beta coefficients, multiple correlations, the amounts of explained variance, the  $F$ -change score, and the change in explained variance for the regression analyses are presented in Table 2. The first regression, which examined

Table 2

Multiple Regressions to Predict Peer Rejection from Relational and Physical Aggression

Predictors	$\beta$	$F$	$R$	$R^2$	$\Delta F$	$\Delta R^2$
Step 1		7.13***	.30	.09		
Sex	-.13					
Relational Aggression	.28 ***					
Step 2		5.45***	.32	.11	2.00(*)	.02
Sex X Relational Aggression	-.45 (*)					
Step 1		7.84***	.32	.10		
Sex	.02					
Physical Aggression	.31***					
Step 2		5.35***	.32	.11	.43	.00
Sex X Physical Aggression	-.16					

(\*)  $p < .10$  \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$  (one-tailed)

relational aggression as a predictor of peer rejection, revealed an overall  $F(2,140) = 7.13, p < .001$ . A main effect of relational aggression was uncovered,  $\beta = .28, p < .001$ , whereas no main effect of sex on peer rejection was found. Furthermore, a trend was revealed for the interaction between sex and relational aggression on the prediction of peer rejection,  $\Delta F(1,139) = 2.00, p = .08$ . To clarify this trend, two separate regression analyses were conducted for boys and for girls. Although results revealed that relational aggression positively predicted peer rejection for both sexes, this relation was found to be somewhat stronger for boys,  $\beta = .34, p < .01$ , than for girls,  $\beta = .22, p < .05$  (see Figure 1). The second multiple regression analysis, which examined physical aggression as a predictor of peer rejection, revealed an overall  $F(2,139) = 7.82, p < .001$ . A main effect of physical aggression was uncovered,  $\beta = .31, p < .001$ , whereas no main effect of sex on peer rejection was found. Furthermore, no interaction effect was found between sex and physical aggression,  $\Delta F(1,139) = .43, n.s.$

#### Do Relationally and Physically Aggressive Children Have Mutual Friends?

In the third cluster of analyses, two three-step logistic regressions were conducted to test whether relational and physical aggression were related to the likelihood of having a mutual friend. In each regression equation, sex and social acceptance/popularity were entered as control variables on the first step, whereas the aggression variable (i.e., either relational or physical) was entered on the second step. Finally, the sex by relational aggression interaction term was added to the equation on the third step. Regression coefficients, Wald statistics, odds ratios, and chi-square statistics for both regression analyses are presented in Table 3. Beyond the effect of social acceptance/ popularity

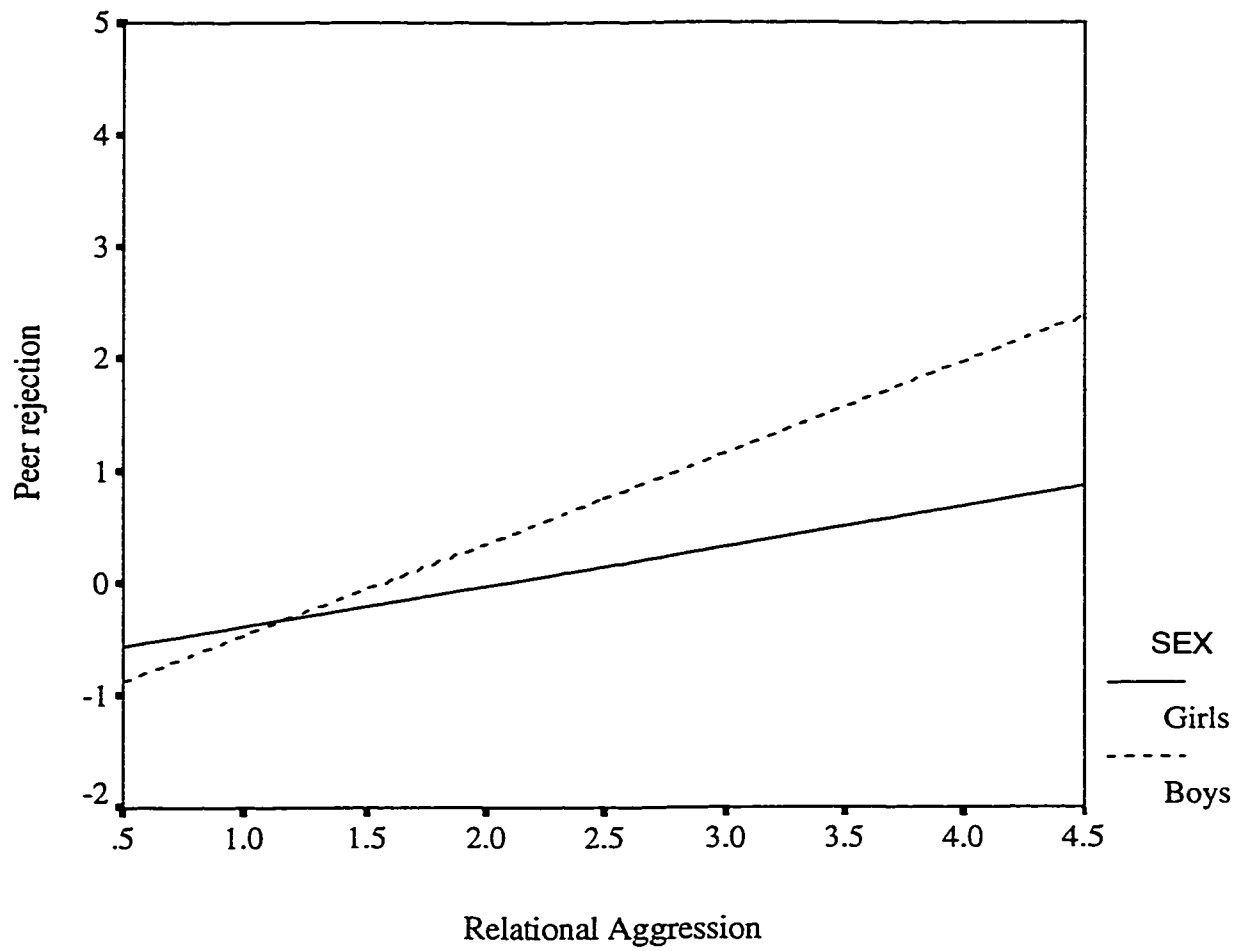


Figure 1. Relation Between Children's Relational Aggression and Peer Rejection by Sex.

Table 3

Logistic Regressions to Test the Predictive Effects of Relational and Physical Aggression on the Likelihood of Having a Mutual Friend

Predictors	B	Wald	Odds Ratio	$\Delta\chi^2$
Step 1				43.40***
Sex	.01	.00	1.01	
Social Acc./ Popularity	1.82***	25.96	6.23	
Step 2				.42
Relational Aggression	.29	.41	1.34	
Step 3				.84
Sex X Relational Aggression	-.82	.83	.44	
Step 1				43.40***
Sex	.01	.00	1.01	
Social Acc./ Popularity	1.83***	25.96	6.23	
Step 2				.02
Physical Aggression	.05	.02	1.05	
Step 3				.32
Sex X Physical Aggression	-.41	.31	.66	

(\*)  $p < .10$  \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$  (one-tailed)

(see Table 3), no significant main effects of either relational or physical aggression, nor any interaction effects with sex, were found on the likelihood of having a friend. In other words, when social status is controlled for, neither form of aggression predicts the odds of engaging in a mutual friendship.

#### Do Relationally and Physically Aggressive Children Select Similar Others as Friends?

For children with at least one mutual friend ( $N = 107$ ), separate multiple regression analyses were conducted to examine whether children's own scores on relational and physical aggression would positively predict their mutual friends' aggression scores. In the first regression analysis, sex and children's own relational aggression were entered on the first step, whereas the sex by relational aggression interaction term was entered on the second step. Results revealed an overall  $F(2,104) = 17.70, p < .001$ , with a positive main effect of children's own relational aggression,  $\beta = .50, p < .001$ , but no main effect of sex. Moreover, a significant interaction effect was revealed between sex and relational aggression,  $\Delta F(1,103) = 6.22, p < .01$ , on the prediction of friends' relational aggression. Standardized beta coefficients, multiple correlations, the amounts of explained variance, the  $F$ -change score, and the change in explained variance are presented in Table 4.

To clarify the interaction between sex and children's relational aggression on the prediction of their friends' relational aggression, separate regression analyses were conducted for boys and for girls. Results showed that, for both sexes, children's own relational aggression was positively related to their friends' relational aggression, but that this relation was stronger for boys,  $\beta = .62, p < .001$ , than for girls,  $\beta = .32, p < .05$  (see Figure 2).

Table 4

Multiple Regressions to Predict Friends' Relational Aggression from Children's Relational Aggression

Predictors	$\beta$	F	R	R <sup>2</sup>	$\Delta F$	$\Delta R^2$
Step 1		17.70***	.50	.25		
Sex	-.07					
Relational Aggression	.50***					
Step 2		14.47***	.55	.30	6.22**	.04
Sex X Relational Aggression	-.91**					

(\* ) p < .10 \* p < .05 \*\* p < .01 \*\*\* p < .001 (one-tailed)

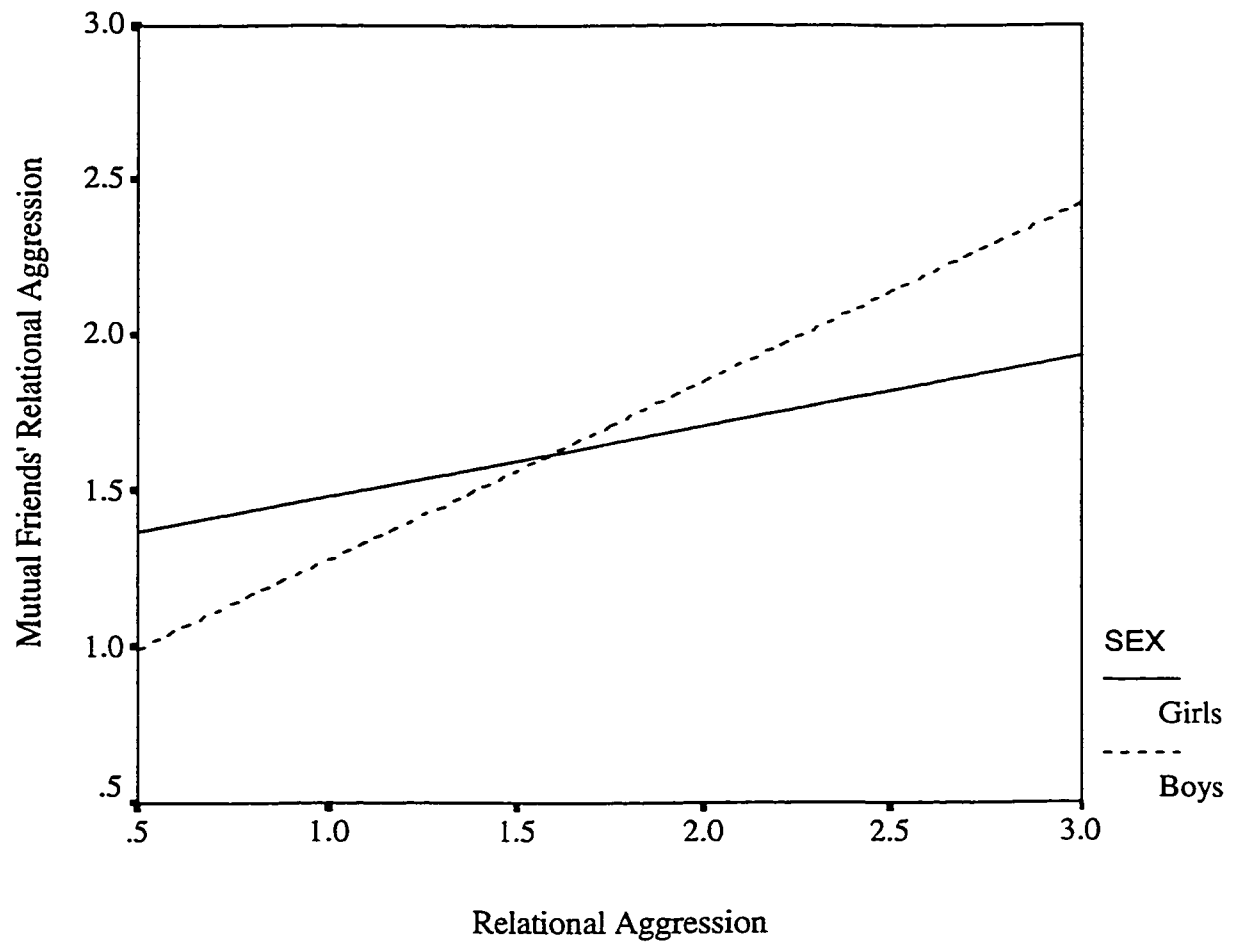


Figure 2. Relation Between Children's and Mutual Friends' Relational Aggression by Sex.



The second main regression analysis paralleled the first, with sex and children's own physical aggression entered on the first step, and the sex by physical aggression interaction term entered on the second step. Results showed an overall  $F(2,104) = 37.49$ ,  $p < .001$ , with a main effect of sex,  $\beta = -.30$ ,  $p < .001$ , indicating that boys befriend children who are more physically aggressive than do girls. Furthermore, a positive main effect of children's own physical aggression on friends' physical aggression was found,  $\beta = .47$ ,  $p < .001$ . No interaction effect between sex by physical aggression was found in the current analysis,  $\Delta F(1,103) = 1.46$ , n.s., (see Table 5).

#### The Friendship Qualities of Relationally and Physically Aggressive Children

For the entire sample ( $N = 143$ ), six multiple regression analyses were conducted to examine whether relational aggression would be related to overall friendship quality, as well as to the separate friendship quality subscale (i.e., Closeness, Conflict, Companionship, Help, Security). Specifically, it was expected that relational aggression would negatively predict overall friendship quality, as well as positively predict conflict in friendships. Moreover, relational aggression was also expected to positively predict closeness. No specific hypotheses were made for the other friendship quality subscales. In each analysis, sex and relational aggression were entered on the first step, whereas the sex by relational aggression interaction term was entered into equation on the second step. In order to protect against type 1 error, Bonferroni corrections were used in the current analysis. Results revealed no main effects of relational aggression, nor any interaction effects between sex and relational aggression on either friendship quality or any of the subscales. Standardized beta coefficients, multiple correlations, the amounts of

Table 5

Multiple Regressions to Predict Friends' Physical Aggression from Children's Physical Aggression

Predictors	$\beta$	$F$	$R$	$R^2$	$\Delta F$	$\Delta R^2$
Step 1		37.49***	.65	.42		
Sex	-.30***					
Physical Aggression	.47***					
Step 2		25.59***	.65	.43	1.46	.08
Sex X Physical Aggression	-.33					

(\*)  $p < .10$  \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$  (one-tailed)

explained variance, the  $F$ -change score, and the change in explained variance for the regression analyses are presented in Table 6.

Similarly, six multiple regression analyses were conducted to examine whether physical aggression would be related to overall friendship quality, as well as to the separate friendship quality subscales. In each analysis, sex and physical aggression were entered in the equation on the first step, whereas the sex by physical aggression interaction term was entered on the second step. Bonferroni corrections were used to protect against type one error. Again, no main effects of physical aggression, nor any interaction effects between sex and physical aggression were found for either overall friendship quality or any of the friendship quality subscales. Standardized beta coefficients, multiple correlations, the amounts of explained variance, the  $F$ -change score, and the change in explained variance for the regression analyses are presented in Table 7.

Table 6

Linear Multiple Regression Analyses to Examine the Relation Between Relational Aggression and Friendship Quality

**Independent Variables**

<b>Dependent Variable</b>	$\beta$ Sex	$\beta$ Relational Aggression	$\beta$ Sex X Relational Aggression	<b>F</b>	<b>R</b>	<b>R<sup>2</sup></b>	$\Delta F$	$\Delta R^2$
<b>Overall Friendship Quality</b>								
Step 1	.45***	-.08		17.60***	.45	.20		
Step 2			-.27				.79	.00
<b>Closeness</b>								
Step 1	.42***	-.13		15.59***	.43	.18		
Step 2			-.07				.05	.00
<b>Conflict</b>								
Step 1	-.15	.08		1.78	.16	.03		
Step 2			-.49				2.03	.02

(Table 6 continued)

Table 6 (continued)

**Independent Variables**

Dependent Variable	$\beta$			$F$	$R$	$R^2$	$\Delta F$	$\Delta R^2$
	Sex	Relational Aggression	Sex X Relational Aggression					
Help	Step 1	.40***	-.03	13.51***	.40	.16	1.84	.01
	Step 2		-.28					
Security	Step 1	.36***	-.06	10.71***	.36	.13	1.40	.01
	Step 2		-.37					
Companionship	Step 1	.22*	-.03	3.46*	.22	.05	3.64	.02
	Step 2		.63					

Note. One-tailed tests of significance were conducted for overall friendship quality, closeness, and conflict; for the other subscales of friendship quality, two-sided tests were performed.

Table 7

Linear Multiple Regression Analyses to Examine the Relation Between Physical Aggression and Friendship Quality

**Independent Variables**

Dependent Variable	$\beta$		F	$\underline{R}$	$\underline{R}^2$	$\Delta F$	$\Delta \underline{R}^2$
	Sex	Physical Aggression					
Overall Friendship Quality							
Step 1	.42***	-.07	17.37***	.45	.20		
Step 2		-.20				.77	.00
Closeness							
Step 1	.36***	-.15	15.93***	.43	.19		
Step 2		-.18				.66	.00
Conflict							
Step 1	-.11	.09	1.91	.16	.03		
Step 2		-.35				1.94	.01

(Table 7 continued)

Table 7 (continued)

**Independent Variables**

Dependent Variable	$\beta$ Sex	$\beta$ Physical Aggression	$\beta$ Sex X Physical Aggression	$F$	$R$	$R^2$	$\Delta F$	$\Delta R^2$
Help	Step 1	.40***	-.02	13.47***	.40	.16		
	Step 2		-.12				2.50	.00
Security	Step 1	.35***	-.02	10.38***	.36	.13		
	Step 2		-.25				1.07	.01
Companionship	Step 1	.19*	-.10	4.09*	.24	.06		
	Step 2		.32				1.67	.01

Note. One-tailed tests of significance were conducted for overall friendship quality, closeness, and conflict; for the other subscales of friendship quality, two-sided tests were performed.

## Discussion

The purpose of the current study was to explore the peer relations of relationally and physically aggressive boys and girls, at both the group and dyadic levels of social organization. The specific goals of the current investigation were: (a) to examine cross- and within-sex mean differences in relational and physical aggression using both continuous and extreme group measures of aggression; (b) to examine whether relationally aggressive boys, relative to relationally aggressive girls, and whether physically aggressive girls, relative to physically aggressive boys, were at heightened risk for peer rejection; (c) to assess whether relational and physical aggression were associated with the likelihood of having a mutual friend; (d) to gauge whether children's relational and physical aggression scores positively predicted those of their friends; and (e) to examine whether relational and physical aggression would be associated with friendship quality.

### Sex-Differences in the Use of Relational and Physical Aggression

As expected in this study, boys, on average, were rated as more physically aggressive than girls, regardless of whether continuous or extreme group measures of aggression were employed. The current results are concordant with those of previous research which have consistently shown that, on average, boys are more physically aggressive than girls (Maccoby, 1990; Maccoby & Jacklin, 1975, 1980). More recently, the notion that boys are always more aggressive has been challenged by broadening the definition of aggression to include non-physical forms of aggressive behaviour in the investigation of sex-differences (Bjorkqvist, 1994; Crick & Grotpeter, 1995). Relational aggression, a form of aggressive behaviour in which relationships are used as the vehicles



of harm (Crick & Grotpeter, 1995), has received particular attention as “the aggressive strategy of choice among school-aged girls” (Crick et al., in press).

Previous research has shown that girls emerge as more relationally aggressive than boys when extreme groups of children are compared (Crick, 1997; Crick & Grotpeter, 1995; Grotpeter & Crick, 1996). However, when continuous measures of aggression have been examined, boys have emerged as more relationally aggressive than girls (Henington et al., in press; Tomada & Schneider, 1997). Based on these findings, it was hypothesized that, when comparing extreme group scores of relational aggression, girls would be rated as more relationally aggressive than boys, whereas, when comparing continuous measures of relational aggression, boys would be rated as more relationally aggressive than girls. Contrary to the hypotheses, no gender differences emerged for relational aggression when extreme group scores or when continuous measures were examined. In sum, regardless of whether continuous or extreme measures of aggression were used, boys and girls were rated as similarly relationally aggressive by their same-sex peers.

Differences did emerge, however, when within-sex comparisons of both relational and physical aggression were examined. These comparisons revealed that the aggressive strategy “typical” of boys and girls seems to differ. As expected, girls were found to use more relational than physical aggression, whereas boys were found to use more physical than relational aggression. Thus, it seems that although boys and girls display similar levels of relational aggression, the latter is more likely to be the aggressive “strategy of choice” among school-aged girls, but not among school-aged boys (Bjorkqvist, 1994; Bjorkqvist et al., 1992; Crick, 1997; Crick & Grotpeter, 1995; Tomada & Schneider, 1997).

Numerous hypotheses have been put forth to explain why girls select relational over physical aggression, and why the opposite is true for boys. Macaulay (1985) has suggested that gender-role models are responsible for the suppression of physical aggression in girls. It is argued that females, who may have the potential to be as physically aggressive as their male counterparts, are socialized to adopt more subtle, non-physical ways to express hostility (Eagly & Steffen, 1986; Maccoby & Jacklin, 1974). Because physical aggression is suppressed in girls, they must, in its place, employ aggressive strategies which are more concordant with traditional sex-role expectancies. Boys, on the other hand, need not suppress physical aggression to the same degree to adhere to societal expectations for their sex. In fact, dominant, assertive behaviour in males is not only socially accepted, but may be rewarded in western society (Eagly & Steffen, 1986; Maccoby & Jacklin, 1974). The use of physical aggression by boys may, under certain circumstances, be viewed as suitable, situationally-appropriate behaviour. For example, male physical aggression may be viewed as a means of “standing-up” for oneself or taking charge of a situation, traits which are concordant with western ideals of the competent male. For females in our society, the same behaviours are generally viewed quite negatively, and may be readily perceived as deviant, whereas more subtle, or relational forms of aggression, generally are not.

In addition to cultural expectancies which influence individuals' aggressive styles, Crick and Grotpeter (1995) have argued that children adopt aggressive tactics which prove the most damaging to their same-sex peers. Because girls generally belong to much tighter peer networks or cliques in which goals include enhancing one's social status through relationships (Belle, 1989; Crick & Crick, 1995), relational aggression, specifically, may

prove a more useful strategy within their peer networks. When relationships are considered close and important, the threat of peer-loss may be viewed as highly damaging, and thus, using relationships as the vehicles of harm may be the most effective strategy for girls (Bjorkqvist, 1994). On the other hand, relational aggression may not be the primary aggressive strategy for school-aged boys, who, according to Belle (1989) and Block (1983), tend to form looser peer associations based on shared activities and goals of hierarchical group dominance. Thus, the aim for boys may not be to damage others' relationships so much as it is to reduce others' social ranking (and thus, increase their own) through primarily physical means. In sum, results from the present study indicate that relational and physical aggression may be used differentially by boys and girls. Thus, although relational and physical aggression in the current study were found to be highly correlated constructs, they nonetheless provide unique information about the behavioural patterns of boys and girls within the peer domain.

#### The Relation Between Girls' and Boys' Relational and Physical Aggression and Peer Rejection

It has been reported that physical, and more recently relational aggression are significantly associated with peer rejection during childhood (Coie & Kupersmidt, 1983; Crick et al., in press; Crick & Grotpeter, 1995; Foster et al., 1986; Newcomb et al., 1993; Tomada & Schneider, 1997). Based on findings reported by Crick (1997), Schwartzman et al., (1995), and Verlaan (1995), it was expected that children who, in particular, display non-"sex-typical" forms of aggression would be at increased risk for rejection relative to children who engage in sex-typical aggressive behaviour. Specifically, it was hypothesized

that girls who used physically aggressive strategies would be more rejected than physically aggressive boys, and that boys who use relationally aggressive strategies would be more rejected than relationally aggressive girls. Consistent with the hypothesis, results of the current study indicated that boys who employed relationally aggressive strategies tended to be more rejected than were relationally aggressive girls. Finally, counter to the hypothesis, physically aggressive boys and girls were found to be similarly rejected by their same-sex peers. That is, girls who used physically aggressive strategies were not found to be more rejected than physically aggressive boys.

Several hypotheses may account for the present findings. In general, it has been well established that children's non-conformity to group norms is associated with peer rejection (Boivin et al., 1995; Wright, Giammarino, & Parad, 1986). Moreover, it has been reported that children who deviate from societal gender-norms experience more peer rejection than those who display sex-"typical" behaviour. This finding has also been found to be stronger for boys than for girls (Carter & McCloskey, 1984). This would suggest that girls, at least in western society, have more latitude in their sex-roles than do boys. Given the greater restrictions on traditional notions of boys' sex-roles, a relationally aggressive boy may tend to experience more peer rejection than a physically aggressive girl who, although deviant, is not as harshly judged as her sex-role deviant male counterpart. Although the amount of explained variance accounted for by the interaction trend between sex and relational aggression on peer rejection is small (see Table 2), it seems that relational aggression, nevertheless, predicts increased social maladjustment in boys relative to girls.

In addition, although physically aggressive girls may be perceived as more deviant than physically aggressive boys, findings show that they are not more susceptible to peer rejection. It may be that physically aggressive girls are not more rejected because of the differential range of aggressive behaviours displayed by boys and girls. Perhaps the behavioural contingencies associated with being labelled as physically aggressive may be different for girls and boys. Girls may perceive other girls as physically aggressive following relatively minor incidents, whereas boys may require relatively more severe, or frequent displays of physical hostility to classify other boys as physically aggressive. Therefore, although both sexes are labelled as physically aggressive by their same-sex peers, the true impact of their behaviour on the peer group may differ substantially, with girls' physical aggression being much more benign than that of boys. As such, although physically aggressive girls may fail to adhere to normative social gender-roles, they may not be more rejected because the range of their aggressive behaviour is moderate compared to that of physically aggressive boys.

#### Mutual Friendships and the Use of Aggressive Strategies

The third set of analyses examined the association between relational and physical aggression and the likelihood of having a mutual friend. Specifically, it was thought that both physically and relationally aggressive children would have the same chance of engaging in a mutual friendship as their non-aggressive peers. As expected, neither physical nor relational aggression decreased one's chances of having a mutual friend. Previous research on physical aggression has shown that, because physically aggressive children are usually not well liked by the larger peer group and because they often lack the skills that promote

friendship formation (Berndt, 1992), physically aggressive children do tend to have fewer friends than non-aggressive children. Though they may have fewer friends, this is not to say that they have no friends at all. According to Hartup (1996), and Cairns et al. (1988), physically aggressive children are just as likely to have a mutual friend as are their non-aggressive counterparts. Moreover, similar findings have also been reported for relational aggression (Crick & Grotpeter, 1995). Thus, results of the current study are consistent with previous findings which indicate that both relationally and physically aggressive children have mutual friends.

According to Sullivan (1953), having a friend during late childhood and early adolescence contributes to normal psycho-social development. The experience of friendship, according to the author, can act as a buffer against the adverse effects of peer rejection and thus, may serve as a source of resiliency for maladjusted children. Although friendships have traditionally been conceptualized as positive influences on social development, recent research has indicated that this may not be true for all children (Berndt, 1992; Hoza et al., 1995; Hartup, 1996). It has been argued that maladjusted children may not benefit from the experience of friendship to the same extent as do their well-adjusted peers because they often befriend similarly maladjusted others, which in turn may negatively impact children who are already “at-risk”(Hartup, 1996,1997).

Previous research has indicated that physically aggressive children specifically, may not only fail to benefit from the experience of friendship, but may become increasingly deviant by associating with similarly aggressive others. As highlighted by Tremblay et al. (1995), members of aggressive dyads may mutually reinforce each others' negative

behaviours, which may in turn exacerbate aggression to levels that may not have been reached individually. In short, although current results indicate that aggressive children, both physical and relational, engage in mutual friendships, it is difficult to assess the developmental sequelae of these findings without additional information about their friends' characteristics as well as the quality of their friendship relations (Hartup, 1996, 1997).

#### The Friends of Relationally and Physically Aggressive Children

Concordant with the fourth hypothesis, both relationally and physically aggressive children were found to befriend similar others. These findings are consistent with both the similarity-attraction hypothesis (Rosenbaum, 1986; Rubin et al., 1994) which stipulates that individuals are attracted to behaviourally-concordant others, as well as the default hypothesis (Berndt, 1992), which indicates that aggressive children affiliate with other aggressive children because they are rejected by their peers, and thus have fewer opportunities to befriend adjusted children.

Although both boys' and girls' physical and relational aggression positively predicted friends' aggression, an unexpected interaction between sex and relational aggression was found in the current sample. Interestingly, relational aggression was found to be a stronger predictor of friends' relational aggression for boys than for girls. In other words, relationally aggressive boys befriended other relationally aggressive boys to a greater extent than relationally aggressive girls befriended other relationally aggressive girls. Again, although the interaction effect between sex and relational aggression on friends' relational aggression accounts for small portion of the variance (see Table 4), it seems, nevertheless, that relational aggression is associated with incongruent outcomes in boys and girls.

Several hypotheses can be advanced to understand the current findings. First, according to earlier results in the present study, relational aggression tended to be more strongly associated with rejection among boys than among girls. As discussed above, this may occur because non-sex-typical behaviour may be less tolerated and perceived as more deviant in boys. Because the social consequences of relational aggression tend to be more severe for boys than for girls, it may be that, concordant with the default hypothesis, relationally aggressive girls, relative to their male counterparts, enjoy a broader pool from which to draw potential friends. As such, although relationally aggressive girls do befriend similar others, they may, compared to boys, still be more likely to befriend well-adjusted, non-aggressive peers.

A second explanation for the current findings can be understood within the context of the similarity-attraction hypothesis. Again, if relational aggression is more normative in girls, it may not be as reputationally-salient a behaviour in girls relative to boys. By standing-out less in girls, relational aggression may be more difficult to isolate as a “benchmark” by which to gauge similarity thus, eluding potential friends who share similar traits and making friendship formation between them less likely. It is not only peers who may have greater difficulty recognizing relational aggression in girls relative to boys. According to Bjorkqvist & Niemela (1992), relationally aggressive girls themselves may have difficulty recognizing their own manipulative strategies as aggressive in nature. If girls fail to recognize their own relational aggression to the same extent as boys, they may be less likely to perceive it as similar when confronted with it in others. Therefore, according to the similarity-attraction hypothesis, relationally aggressive girls would be less likely to befriend



similar others relative to relationally aggressive boys.

### The Quality of Aggressive Children's Friendships

It was hypothesized that both physically and relationally aggressive children would report, overall, lower quality friendships than their non-aggressive peers. In addition, it was hypothesized that both forms of aggression would predict increased conflicts in friendships, and that relational aggression specifically would predict greater levels of reported closeness with friends. Counter to expectations, results of the current study revealed no differences in overall friendship quality among aggressive and non-aggressive children. Moreover, both forms of aggression failed to predict increased conflict within the friendship relation. Also counter to the hypothesis, the friendships of relationally aggressive children were not marked by increased levels of closeness. The current findings are discordant with previous research which has demonstrated that both forms of aggression predict negative features of the friendship experience (Berndt, 1992; Grotjeter & Crick, 1997; Parker & Asher, 1993). It seems that, at least in the current sample, aggressive children's perceived friendship quality is similar to that of non-aggressive children.

One explanation for the present findings may have to do with where aggressive children target their hostility. In other words, the quality of aggressive children friendships may depend, to some extent, on whether aggression is directed at the dyadic or group level of social organization. As reported above, both relationally and physically aggressive children were found to affiliate with similar others. Parallel to the behavioural patterns of physically aggressive children described by Crick et al. (in press), relationally aggressive children may also join forces with similar others to "gang-up" on members of the larger peer

group. That is, if aggressive children, both physical and relational, direct their hostility outside the dyad, they may not experience increased conflict within their friendships, and may not report lower friendship quality. Moreover, if relationally aggressive children victimize non-friends, the aspect of friendship closeness may not be used as a tool for relational attacks within the friendship. In short, understanding where children aim their aggression may not only have implications for who they befriend, but also for the nature of the friendship experience itself.

### Conclusions

The current findings support the following conclusions: (a) relational and physical aggression are highly interrelated constructs; and (b) both forms of aggression are associated with different social contingencies for boys and girls, at both the group and dyadic levels of social organization. In addition, results also question the validity of Tomada & Schneider's (1997) notion that the construct of relational aggression is only useful in the understanding of female psycho-social development, but is of limited interest with respect to boys. By broadening traditional definitions of aggression to include more relational forms of hostility, not only do results provide information about aggressive girls, but they provide information about non-physically aggressive boys, a group which has also received little attention in the peer literature.

Implications of the current findings involve identifying children who, although at risk, have been excluded from many prior investigations of aggression (see Crick et al., in press, for review). The social consequences for children who primarily use non-physical forms of aggression may be as detrimental as those previously thought to be specific to

physically aggressive boys. Identifying aggressive children who are at risk for maladjustment, at both the group and dyadic levels of organization, is a first step towards developing specific intervention strategies. For example, intervention strategies that focus specifically on promoting social-skills in aggressive children may, in turn, lead to a decrease in peer rejection and an increase in the availability of potential friends. By associating with more adjusted friends, aggressive children may learn to decrease their hostile tendencies, which according to the similarity-attraction hypothesis, would further promote friendship formation with more well-adjusted peers. Interventions which influence who children befriend may have the potential to decrease the adverse social affects of both forms of aggression.

#### Limitations of the Current Investigation and Future Directions

Several shortcomings are noteworthy in the current investigation. First, counter to expectations, girls were not found to be more relationally aggressive when extreme group scores were employed. One reason for this finding may be that the definition of extreme aggression was more liberal in the current investigation than are most studies within the peer literature (Crick, 1996; Crick & Grotpeter, 1995). Thus, the “extreme” group of aggressive children was not likely as extreme as those in previous studies. Whereas extreme groups usually consist of scores which fall at least at one standard deviation above the group mean (see Crick et al., in press, for review), extreme groups in the current study were based on aggression scores which fell at least at the 75<sup>th</sup> percentile rank (i.e., 0.58 standard deviations above the mean on the relational aggression measure, and 0.33 standard deviations above the mean on the physical aggression measure). Due to current sample size constraints, a

comparably strict definition of aggression, would have seriously compromised statistical power. Thus although the adjustment was necessary, it nevertheless may have contributed to the discordant findings.

More general limitations also need to be highlighted. The bulk of the literature within the peer domain is based on sociometric data which is collected through peer nominations and rating-scale techniques. These methodologies typically limit children's friendship choices to children in their own school, grade or class. Even when restricted to classmates, children's choices are often restricted to same-sex peers who are also participating in the study. As such, indexes of social adjustment may, in some cases, be over- or underestimated.

For example, children who are found to be rejected may not, in reality, be as rejected as indicated by the data. Perhaps they are accepted by other non-participating classmates, or by other-sex children which would not be indicated in the current data. Although rejection has been found to be rather stable across social contexts (Rubin et al., 1998), it is possible that children who are rejected by their classmates have other milieus in which they are not rejected, such as within their neighbourhoods, families, or within the context of extra-curricular activities. Because behavioural attributes and indexes of social adjustment were assessed solely by peers-reports, other domains of psycho-social functioning (i.e., those which may be more readily assessed by parent- or by self-reports) may have been ignored.

Another limitation stems from the fact that only same-sex peer ratings were retained for analysis in the current investigation. Although the advantages of using same-sex peer

ratings have been well-documented (Archer, 1992; Bukowski et al., 1993; Maccoby, 1990; Thorne, 1986), there also exists disadvantages to this approach. It is possible that sex-differences may result from differences in boys' and girls' social perceptions. That is, boys' and girls' may employ different standards by which to gauge behavioural attributes, or may differ in their ability to assess subtleties in social behaviour. Therefore, although the precedent for same-sex raters is clear within the developmental literature (Archer, 1992; Bukowski et al., 1993; Maccoby, 1990; Thorne, 1986) refs), this assessment approach is not without its shortcomings.

With these issues in mind, avenues for future research are discussed. First, investigators should examine whether boys and girls differ in their self-perceptions of relational aggression. If in fact girls recognize their own aggressive tendencies to a lesser degree, self-ratings of relational aggression, at least for girls, may be a better predictor of friends' relational aggression than are peer-ratings. Second, whether children target their hostility at the dyadic, or group levels may differentially predict who aggressive children befriend, as well as have implications for children's perceived friendship quality. Moreover, when resources permit, other sources of information, namely other-sex peer-, parent- and self-reports, may provide a more global index of a child's social adjustment.

Finally, in the future, researchers may wish to examine children's very best mutual friendship to gain important insight into children's perceptions of friendships. Perhaps maladjusted children objectively experience lower-quality friendships, but because of a multitude of reasons, namely a lack of alternative comparisons, they may subjectively perceive their lower-quality friendships in a positive light. Implications for whether

friendships need to attain an absolute level quality to promote psycho-social development, or whether children simply need to perceive their friendships as high in quality in order to benefit from them, becomes a relevant issue for future investigations.

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**Appendix A**

**Parental Solicitation Letter and Parental Consent Form**



December 1<sup>st</sup>, 1996

Dear Parents,

I am a professor at Concordia University where I teach courses and conduct research on children and adolescents. One of the topics I study is children's friendships. I am writing to tell you about this study and to ask for your permission for your child to participate in it.

As part of the study I am conducting, I will meet with the participating children in their classrooms for 40 minutes at their school twice this year and again twice next year when they are in high school. I will be asking them to complete some questionnaires that will give me information about themselves, their friendships, and their schools and how they deal with the transition to high school.

This study poses no risks to the children. Because it is not a "treatment study" it is not intended to provide direct benefits to the students who participate. Most children enjoy participating in activities like those I have outlined above. The information collected in the study will be completely confidential, and participation is, of course, entirely voluntary. Your child is not required to take part, in fact, even if you give your permission for him/her to participate you may change your mind at any time. If your child decides that s/he does not want to participate, he or she does not have to.

If you have any questions about this study, please call me at 848-2184 (office) or 489-4497 (home). As well, I can be reached by letter at: Department of Psychology, Concordia University, 7141 Sherbrooke St. W., Montreal, Quebec, H4B 1R6

Please fill out the attached form and return it in the stamped, addressed envelope provided. Thank-you for your help and cooperation,

Sincerely,

William M. Bukowski  
Associate Professor

## PARENT CONSENT FORM

Please read and sign the following:

1. Professor Bukowski has described the purposes and procedures of the research study on children's friendships during the transition to highschool that he would like to conduct sixth grade students.
2. I understand that the children who participate in Dr. Bukowski's study will be asked to complete some questionnaires during class time this year and again next year in high school.
3. I understand that it will take about 40 minutes each time for the participant to complete these tasks.
4. I know that there will be no direct benefits to my child as a result of having participated in this study, and Dr. Bukowski has told me that there are no risks except those that children already encounter in their daily lives.
5. I know that participation is voluntary and that even if my child begins to take part in the study, he or she can withdraw at any time.
6. I understand that my child's responses will be confidential, and that no identifying information will be given in results of this research.

Please check one of the following:

\_\_\_\_\_ I give my child permission to participate.

\_\_\_\_\_ I do not give my child permission to participate.

My child's name is \_\_\_\_\_.

Please sign and print your name here:

(Sign) \_\_\_\_\_ Date: \_\_\_\_\_.

(Print) \_\_\_\_\_.


**PLEASE RETURN THIS FORM IN THE STAMPED ENVELOPE PROVIDED.**

Appendix B

Child Consent Form

LAKESHORE SCHOOL BOARD - TRANSITION STUDY

STUDENT CONSENT FORM - DECEMBER 1996

 Read the following statements carefully and sign at the bottom.

- I understand that I have been asked to be in a research study that Dr. W.M Bukowski is conducting about friendship and the transition to highschool.
- I understand that if I agree to participate in the study I will be asked to fill in some questionnaires about myself, my friends, and my school, both this year and next year.
- I understand that I do not have to be in the study and that even if I start to take part in it I can quit at any time.
- I understand that I can ask any questions about the study before I participate and anytime during the study.
- I understand that my answers will be kept private and will NOT be shown to anyone; Not even my teachers, my parents or my friends. Only Dr. Bukowski and his assistants will know what I say on the questionnaires.

sign  \_\_\_\_\_

Date: December 2<sup>nd</sup>, 1996

Print: \_\_\_\_\_

Appendix C  
Sample Questionnaire

## TELL US ABOUT YOURSELF

1. List any sports, activities, games or hobbies that you participate in regularly:  <input type="checkbox"/> None	Compared to other kids your age, how much time do you spend doing each sport?	Compared to other kids your age, how good are you at each one?
a.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	don't know <input type="checkbox"/> below average <input type="checkbox"/> average <input type="checkbox"/> above average <input type="checkbox"/>
b.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	don't know <input type="checkbox"/> below average <input type="checkbox"/> average <input type="checkbox"/> above average <input type="checkbox"/>
c.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	don't know <input type="checkbox"/> below average <input type="checkbox"/> average <input type="checkbox"/> above average <input type="checkbox"/>
d.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	don't know <input type="checkbox"/> below average <input type="checkbox"/> average <input type="checkbox"/> above average <input type="checkbox"/>
e.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	don't know <input type="checkbox"/> below average <input type="checkbox"/> average <input type="checkbox"/> above average <input type="checkbox"/>
f.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	don't know <input type="checkbox"/> below average <input type="checkbox"/> average <input type="checkbox"/> above average <input type="checkbox"/>
2. List any organization, clubs, teams, or groups that you belong to:	Compared to other kids your age, how much time do you spend in each?	
a.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	
b.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	
c.	don't know <input type="checkbox"/> less than average <input type="checkbox"/> average <input type="checkbox"/> more than average <input type="checkbox"/>	
3. Who do you admire in the sense that you would like to be like him/her when you grow up?		

4. What are your three favourite foods?	1.  2.  3.
5. How well are you doing in school overall?	Failing    below average    average    above average <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

## HASSLES WITH OTHER KIDS

Hassles are things that bug you, or make you feel bad. Think of a hassle which occurred recently with other kids. Briefly describe the problem here:

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There are lots of different ways a person can deal with a hassle. We've listed some of them below. We call them coping strategies. Read through each of the coping strategies listed below, and think of each one as a possible way to solve your problem. After each strategy there is a scale that goes from 1 to 5.

- "1" means you'd **never** use this strategy
- "2" means that you would use this strategy **rarely**
- "3" means that **sometimes** you would use this strategy
- "4" means that you'd **often** use this strategy
- "5" means that you'd almost **always** use this strategy

Circle the number on the scale that best describes you much you'd use each strategy.

	Never			Always	
1. I'd try and solve the problem myself.	1	2	3	4	5
2. I'd tell them off.	1	2	3	4	5
3. I'd try not think about it.	1	2	3	4	5
4. I'd go hang out with other friends.	1	2	3	4	5
5. I'd pretend that it never happened.	1	2	3	4	5
6. I'd just stay away from them.	1	2	3	4	5
7. I wouldn't do anything.	1	2	3	4	5
8. I'd go talk to my other friends about it.	1	2	3	4	5
9. I'd ask my parents what they thought.	1	2	3	4	5

10. I'd try to work it out with the other person(s).	1	2	3	4	5
11. I'd go watch television.	1	2	3	4	5
12. I'd get back at them somehow.	1	2	3	4	5
13. I'd read a book.	1	2	3	4	5
14. I'd cry.	1	2	3	4	5
15. I'd think that it was no big deal.	1	2	3	4	5
16. I'd say that it was their fault.	1	2	3	4	5
17. I'd talk to the teacher.	1	2	3	4	5
18. I'd say that it was all my fault	1	2	3	4	5
19. I'd just make a joke out of the whole thing.	1	2	3	4	5
20. I'd want to hurt myself.	1	2	3	4	5
21. I'd wonder why it happened.	1	2	3	4	5
22. I'd think that I was just having a bad day.	1	2	3	4	5
23. I'd tell myself that it would be okay.	1	2	3	4	5



## HASSLES AT HOME

Hassles are things that bug you, or make you feel bad. Think of a hassle which occurred recently with other kids. Briefly describe the problem here:

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There are lots of different ways a person can deal with a hassle. We've listed some of them below. We call them coping strategies. Read through each of the coping strategies listed below, and think of each one as a possible way to solve your problem. After each strategy there is a scale that goes from 1 to 5.

- "1" means you'd **never** use this strategy
- "2" means that you would use this strategy **rarely**
- "3" means that **sometimes** you would use this strategy
- "4" means that you'd **often** use this strategy
- "5" means that you'd almost **always** use this strategy

Circle the number on the scale that best describes you much you'd use each strategy.

	Never			Always	
1. I'd try and solve the problem myself.	1	2	3	4	5
2. I'd tell them off.	1	2	3	4	5
3. I'd try not think about it.	1	2	3	4	5
4. I'd go hang out with other friends.	1	2	3	4	5
5. I'd pretend that it never happened.	1	2	3	4	5
6. I'd just stay away from them.	1	2	3	4	5
7. I wouldn't do anything.	1	2	3	4	5
8. I'd go talk to my other friends about it.	1	2	3	4	5
9. I'd ask my parents what they thought.	1	2	3	4	5

10. I'd try to work it out with the other person(s).	1	2	3	4	5
11. I'd go watch television.	1	2	3	4	5
12. I'd get back at them somehow.	1	2	3	4	5
13. I'd read a book.	1	2	3	4	5
14. I'd cry.	1	2	3	4	5
15. I'd think that it was no big deal.	1	2	3	4	5
16. I'd say that it was their fault.	1	2	3	4	5
17. I'd talk to the teacher.	1	2	3	4	5
18. I'd say that it was all my fault	1	2	3	4	5
19. I'd just make a joke out of the whole thing.	1	2	3	4	5
20. I'd want to hurt myself.	1	2	3	4	5
21. I'd wonder why it happened.	1	2	3	4	5
22. I'd think that I was just having a bad day.	1	2	3	4	5
23. I'd tell myself that it would be okay.	1	2	3	4	5

## FRIENDSHIP ACTIVITY QUESTIONNAIRE

Put the name of your very best friend here \_\_\_\_\_.

Now we want to ask some questions just about you and the person you think of as your best friend so we can know what your best friend is like. We have some sentences that we would like you to read. Please tell us whether this sentence describes your friendship or not. Some of the sentences might be really true for your friendship while other sentences might be not very true for your friendship. We simply want you to read the sentence and tell us how true the sentence is for your friendship. Remember, there are no right or wrong ways to answer these questions, and you can use any of the numbers on the scale.

After each sentence there is a scale that goes from 1 to 5.

"1" means the sentence is probably not true for your friendship,

"2" means that it might be true,

"3" means that it is usually true,

"4" means that it is very true,

"5" means that it is really true for your friendship.

Circle the number on the scale that is best for you. Be sure to read carefully and answer as honestly as possible.

### Example

X1. My friend and I play games and other activities with each other.

Not True                  Really True  
1-----2-----3-----4-----5

1. My friend and I spend a lot of our free time together.

Not True                  Really True  
1-----2-----3-----4-----5

2. My friend gives me advice when I need it.

Not True                  Really True  
1-----2-----3-----4-----5

3. My friend and I do things together.

Not True                  Really True  
1-----2-----3-----4-----5

4. My friend and I help each other.

Not True                  Really True  
1-----2-----3-----4-----5

**BE SURE TO THINK ABOUT YOUR BEST FRIEND WHOM YOU NAMED ON THE FIRST PAGE WHEN YOU ANSWER THESE QUESTIONS AND BE SURE TO READ EACH ITEM CAREFULLY.**

5. Even if my friend and I have an argument we would still be able to be friends with each other. Not True Really True  
1-----2-----3-----4-----5
6. My friend and I play together at recess. Not True Really True  
1-----2-----3-----4-----5
7. If other kids were bothering me, my friend would help me. Not True Really True  
1-----2-----3-----4-----5
8. Our friendship is just as important to me as it is to my friend. Not True Really True  
1-----2-----3-----4-----5
9. I can trust and rely upon my friend. Not True Really True  
1-----2-----3-----4-----5
10. My friend helps me when I am having trouble with something. Not True Really True  
1-----2-----3-----4-----5
11. If my friend had to move away I would miss her. Not True Really True  
1-----2-----3-----4-----5
12. If I can't figure out how to do something, my friend shows me how. Not True Really True  
1-----2-----3-----4-----5
13. Sometimes it seems that I care more about our friendship than my friend does. Not True Really True  
1-----2-----3-----4-----5
14. When I do a good job at something my friend is happy for me. Not True Really True  
1-----2-----3-----4-----5

**BE SURE TO THINK ABOUT YOUR BEST FRIEND WHOM YOU NAMED ON THE FIRST PAGE WHEN YOU ANSWER THESE QUESTIONS AND BE SURE TO READ EACH ITEM CAREFULLY.**

15. There is nothing that would stop my friend and I from being friends. Not True Really True  
1-----2-----3-----4-----5
16. Sometimes my friend does things for me or makes me feel special. Not True Really True  
1-----2-----3-----4-----5
17. When my friend and I have an argument, she can hurt my feelings. Not True Really True  
1-----2-----3-----4-----5
18. When I have not been with my friend for a while I really miss being with her. Not True Really True  
1-----2-----3-----4-----5
19. If somebody tried to push me around, my friend would help me. Not True Really True  
1-----2-----3-----4-----5
20. I can get into fights with my friend. Not True Really True  
1-----2-----3-----4-----5
21. My friend would stick up for me if another kid was causing me trouble. Not True Really True  
1-----2-----3-----4-----5
22. When we have free time at school, such as at lunchtime or recess, my friend and I usually do something together or spend time with each other. Not True Really True  
1-----2-----3-----4-----5
23. If I have a problem at school or at home I can talk to my friend about it. Not True Really True  
1-----2-----3-----4-----5
24. My friend can bug me or annoy me even though I ask her not to. Not True Really True  
1-----2-----3-----4-----5

**BE SURE TO THINK ABOUT YOUR BEST FRIEND WHOM YOU NAMED ON THE FIRST PAGE WHEN YOU ANSWER THESE QUESTIONS AND BE SURE TO READ EACH ITEM CAREFULLY.**

25. If I forgot my lunch or needed a little money my friend would loan it to me. Not True Really True  
1-----2-----3-----4-----5
26. I think of things for us to do more often than my friend does. Not True Really True  
1-----2-----3-----4-----5
27. If I said I was sorry after I had a fight with my friend she would still stay mad at me. Not True Really True  
1-----2-----3-----4-----5
28. My friend helps me with tasks that are hard or that need two people. Not True Really True  
1-----2-----3-----4-----5
29. My friend and I go to each other's houses after school and on weekends. Not True Really True  
1-----2-----3-----4-----5
30. Sometimes my friend and I just sit around and talk about things like school, sports, and other things we like. Not True Really True  
1-----2-----3-----4-----5
31. If I have questions about something my friend would help me get some answers. Not True Really True  
1-----2-----3-----4-----5
32. Even if other persons stopped liking me, my friend would still be my friend. Not True Really True  
1-----2-----3-----4-----5
33. I know that I am important to my friend. Not True Really True  
1-----2-----3-----4-----5
34. My friend would help me if I needed it. Not True Really True  
1-----2-----3-----4-----5

**BE SURE TO THINK ABOUT YOUR BEST FRIEND WHOM YOU NAMED ON THE FIRST PAGE WHEN YOU ANSWER THESE QUESTIONS AND BE SURE TO READ EACH ITEM CAREFULLY.**

35. Being friends together is more important to me than it is to my friend.

Not True                  Really True  
1-----2-----3-----4-----5

36. If there is something bothering me I can tell my friend about it even if it is something I can not tell to other people.

Not True                  Really True  
1-----2-----3-----4-----5

37. Things are usually pretty even in my friendship.

Not True                  Really True  
1-----2-----3-----4-----5

38. My friend puts our friendship ahead of other things.

Not True                  Really True  
1-----2-----3-----4-----5

39. When I have to do something that is hard I can count on my friend for help.

Not True                  Really True  
1-----2-----3-----4-----5

40. If my friend or I do something that bothers the other one of us we can make up easily.

Not True                  Really True  
1-----2-----3-----4-----5

41. My friend and I can argue a lot.

Not True                  Really True  
1-----2-----3-----4-----5

42. My friend and I disagree about many things.

Not True                  Really True  
1-----2-----3-----4-----5

43. If my friend and I have a fight or argument we can say "I'm sorry" and everything will be all right.

Not True                  Really True  
1-----2-----3-----4-----5

**BE SURE TO THINK ABOUT YOUR BEST FRIEND WHOM YOU NAMED ON THE FIRST PAGE WHEN YOU ANSWER THESE QUESTIONS AND BE SURE TO READ EACH ITEM CAREFULLY.**

44. I feel happy when I am with my friend.

Not True                  Really True  
1-----2-----3-----4-----5

45. My friend likes me as much as I like her.

Not True                  Really True  
1-----2-----3-----4-----5

46. I think about my friend even when my friend is not around.

Not True                  Really True  
1-----2-----3-----4-----5



## WHO ARE YOUR FRIENDS?

**WE WOULD LIKE TO KNOW WHO YOU ARE FRIENDS WITH AND WHO YOU LIKE TO SPEND TIME WITH.**

- ✓ Pick the names of the boys and girls in your grade who are your best friends from the list below.
- ✓ Write their names on the lines below putting your best friend on the first line, second best friend on the second line and so on.
- ✓ You can list as many or as few friends as you like, but the names you choose must be from the list below.

 **REMEMBER TO WRITE THE FIRST AND LAST NAMES:**

1st best friend: \_\_\_\_\_

2nd. \_\_\_\_\_

3rd. \_\_\_\_\_

4th. \_\_\_\_\_

5th. \_\_\_\_\_

**CHOOSE FROM THIS LIST:**

<b>Chad McLarnon</b>	<b>(59)</b>
<b>John Claude</b>	<b>-62</b>
<b>Jeffrey Robert Roop</b>	<b>-63</b>
<b>Kimberley Anne Ford</b>	<b>-64</b>
<b>Eric Poole</b>	<b>-65</b>
<b>Philip Marleau</b>	<b>-66</b>
<b>Caroline Birk</b>	<b>-85</b>
<b>Alex De Jesus</b>	<b>-86</b>
<b>Natacha Patenaude</b>	<b>87</b>

## DESCRIBE YOUR CLASS

### *TELL US ABOUT THE STUDENTS IN YOUR CLASS*

✓ Read the descriptions on the following pages.

✍ Then for each person in your class, tell us how well this sentence describes each of them by circling the number beside their name.

Not at all	A little	Sometimes	Usually	Very much
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#### 1. A person that I like:

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

#### 2. Someone who ignores or stops talking to someone when they are mad at them:

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**3. Someone who is sad:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**4. Someone who is helpful and cooperative:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**5. Someone who has trouble making friends:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**6. Someone who would rather be alone than with others:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**7. A person that gets into lots of fights:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**8. Someone whose feelings get hurt easily:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**9. A person who does well in school:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**10. Someone whom others don't listen to:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**11. Someone who tells their friends that they will stop liking them unless the friend does what they want:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**12. Somebody who picks on other kids:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**13. Somebody who has many friends:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**14. Someone who always seems to be talking about people:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤



Not at all	A little	Sometimes	Usually	Very much
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**15. A person who gets picked on by others:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**16. Someone who is often left out of activities:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**17. Someone who pushes other kids around:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

**18. A person with good ideas for things to do:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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***19. Someone who is very shy and doesn't join in activities:***

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

***20. Someone who spreads gossip about someone when they are mad at them:***

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Not at all	A little	Sometimes	Usually	Very much
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**21. Someone who is always nice to others:**

<b>Chad McLarnon</b>	①-----②-----③-----④-----⑤
<b>Jeffrey Robert Roop</b>	①-----②-----③-----④-----⑤
<b>Kimberley Anne Ford</b>	①-----②-----③-----④-----⑤
<b>Eric Poole</b>	①-----②-----③-----④-----⑤
<b>Caroline Birk</b>	①-----②-----③-----④-----⑤
<b>Alex De Jesus</b>	①-----②-----③-----④-----⑤

Appendix D

Items on the Friendship quality Scale

Items on the Friendship Quality Subscales as Reported by Bukowski, Hoza and Boivin (1994)

**Subscales**

**Subscale Item**

***Companionship*** ( $\alpha=.71$ )

- My friend and I spend all our free time together.
- My friend thinks of fun things for us to do together.
- My friend and I go to each other's houses after school and on weekends .
- Sometimes my friend and I just sit around and talk about things like school, sports and other things we like.

***Conflict*** ( $\alpha=.76$ )

- I can get into fights with my friend.
- My friend can bug or annoy me even though I ask him not to.
- My friend and I can argue a lot.
- My friend and I disagree about many things.

***Help*** ( $\alpha=.73$ )

*Aid*

- If I forgot my lunch or needed a little money my friend would loan it to me.
- My friend helps me when I am having trouble with something.
- My friend would help me if I needed it.

*Protection*

- If other kids were bothering me my friend would help me.
- My friend would stick up for me if another kid was causing me trouble.

***Security*** ( $\alpha=.71$ )

*Reliable Alliance*

- If I have a problem at school or at home I can talk to my friend about it.
- If there is something bothering me I can tell my friend about it is something I cannot tell to other people.

*Transcending problems*

-If I said I was sorry after I had a fight with my friend he would still stay mad at me.

-If my friend or I do something that bothers the other one of us we can make up easily.

-If my friend and I have an argument we can say "I'm sorry" and everything will be alright.

*Closeness ( $\alpha=.77$ )*

*Affective bond*

-If my friend had to move away I would miss him/her.

-I feel happy when I am with my friend.

-I think about my friend even when my friend is not around.

*Reflected appraisal*

-When I do a good job at something my friend is happy for me.

-Sometimes my friend does things for me, or make me feel special.

## Appendix E

Intercorrelations Between Friendship Quality Subscales as reported by Bukowski, Hoza and Boivin (1994)

	<b>Companionship</b>	<b>Conflict</b>	<b>Help</b>	<b>Security</b>	<b>Closeness</b>
<b>Companionship</b>	1.00	-.13	.38	.29	.33
<b>Conflict</b>	-.14	1.00	-.32	-.29	-.27
<b>Help</b>	.43	-.13	1.00	.57	.61
<b>Security</b>	.35	-.33	.42	1.00	.54
<b>Closeness</b>	.42	-.23	.51	.47	1.00