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Physical and Relational Aggression and Victimization among Children: The Role of Familial and Individual Factors

Nancy Bartlett

A Thesis

in

The Department

of

Psychology

Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy at
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Abstract

Physical and Relational Aggression and Victimization among Children: The Role of Familial and Individual Factors

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The overarching aim of this study was to answer the question of why boys and girls might engage in different forms of aggression and victimization. To this end, there were four major goals: (a) to determine the most parsimonious system of conceptualising forms of aggression and victimization; to examine: (b) sex differences in relational and physical aggression and victimization; (c) family and individual factors related to dominance and aggression/victimization; and (d) the association between aggression and victimization. Individual factors were within four domains: peer dominance status, self-discrepancy, self-efficacy, and social importance.

Participants were 367 5th and 6th grade, English-speaking boys and girls in suburban Montreal, Quebec. Peer-ratings of aggression and victimization as well as dominance were obtained, and participants rated their parents on dimensions of involvement and supervision. Self-ratings were obtained for actual, ideal, and ought selves regarding dominance-related characteristics; self-efficacy for aggression, conflict, and non-conflict situations, as well as outcome expectancies for aggression; and social importance for male and female dominance-related characteristics.

Results showed that, using Confirmatory Factor Analysis, two separate factors (physical and relational) emerged for aggression and victimization. Boys were rated as using more physical, and girls more relational aggression (after controlling for physical

aggression). Boys received higher ratings on physical victimization (when they were also aggressive). The major findings related to the remaining goals were that the association between parenting and dominance differed for boys and girls; dominance was negatively predictive of physical, and positively predictive of relational aggression for girls; dominance was negatively predictive of victimization; actual-ideal discrepancy for male dominance-related characteristics was predictive of physical victimization for boys; self-efficacy for conflict situations was negatively related to relational and positively related to physical aggression for girls; social importance for female dominance-related characteristics was negatively predictive of physical and positively predictive of relational aggression, and; victimization was more strongly related to aggression for girls.

The results of this study may help to clarify the confusion about how to conceptualise different forms of aggression. In addition, it adds to the literature on sex differences in types of aggression by attempting to empirically test the reasons for girls' and boys' use of different aggressive strategies and elucidating some of the factors that are differentially predictive of aggression and victimization for boys and girls.

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INTRODUCTION

Most children will likely be involved in peer aggression or victimization at some point during their school lives (Hoover, Oliver, & Hazler, 1992). A recent Canadian study indicated that about 5% of children in Grades 4 to 6 reported bullying others more than once or twice during the school term, and about 15% of students reported being victimized at the same rate (O'Connell et al., 1997). Other studies have reported similar or even higher rates (Olweus, 1993a; Perry, Kusel, & Perry, 1988). Aggression in children is predictive of negative psycho-social outcomes, such as peer rejection and later antisocial behaviour, including criminality (see Coie & Dodge, 1998 for a review; Moffitt, 1993; Olweus, 1993b). Victimization in childhood and early adolescence has been found to be related to loneliness, school dissatisfaction and avoidance, lower global self-worth, insecurity, social isolation, social anxiety, and unpopularity, and is predictive of later emotional maladjustment, including depression, negative self-views, and suicide attempts (Boulton & Underwood, 1992; Boulton & Smith, 1994; Ku, 1997; Nukulkij, Cillessen, & Bellmore, 2000; Olweus, 1993a). Longitudinal studies indicate that many of these difficulties are at least in part a consequence of victimization (Egan & Perry, 1998; Hodges & Perry, 1999; Kochenderfer & Ladd, 1996; Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998).

Until quite recently, the literature on aggression and victimization has emphasized their physical forms. Because of this focus, the research has been typically focused on boys, as they are, on average, more physically aggressive than girls throughout childhood and adolescence (Hyde, 1984; Maccoby & Jacklin, 1974, 1980). As a result, girls have been viewed as non-aggressive. Though physical aggression among school-girls seems

be on the rise (a finding which has recently received heightened attention both in aggression research and in the Canadian media; e.g., Artz, 1998; Pearson, 1997), a focus on this style of aggression does not likely fully capture the aggression and victimization experiences of the majority of school-aged girls. Additionally, it may not capture the entire spectrum of aggression/victimization experiences of boys, as, though they may use more physical aggression than girls, their experiences with aggression are certainly not confined to the physical realm.

Recently, there has been an increased interest in studying non-physical forms of aggression, used by children of both sexes, but believed to be more typical of females than of males. These non-physical forms of aggression seem to be as harmful, if not more so, than their physical counterparts, as they have been found to be more strongly associated with social and emotional maladjustment for the victims (Crick & Grotpeter, 1996; Hawker & Boulton, 1996, 1997; Hawker, Boulton, Chau, Amataya, & Whitehand, 1999). Though this line of research has done much to further our understanding of a fuller range of aggressive behaviours, the result has been somewhat confusing. Various research groups have given a different name to the particular non-physical form aggression which they study, though there appears to be a great deal of overlap among them. Three types of non-physical aggression -- indirect, relational, and social -- have received a considerable amount of recent research attention, and will be emphasized in the present study.

Objectives

The current study had four major goals:

(1) There is no agreed-upon conceptualization of types of aggression, especially those which are non-physical in nature, or what is presumed to be the "female-typical" style of aggression. Thus, the first major goal of this study was to determine the most parsimonious conceptualization of types of aggression.

(2) It is unclear from the literature whether sex differences exist in non-physical forms of aggression and victimization. The second major goal of this study was to determine if sex differences exist in the current sample.

(3) There have been assumptions made about why boys and girls might be involved in different forms of aggression and victimization, but these assumptions have no empirical basis. The third major goal of this study was to examine a) family and b) individual factors that may be related to such sex differences.

(4) The literature has shown that aggression and victimization are significantly related in children, with children who are aggressors frequently also being the victims of their peers' aggression. Those who display "gender non-normative" aggression (i.e., boys who are relationally aggressive and girls who are physically aggressive) may be at greater risk for such peer maltreatment. A final goal of this study was to examine how aggression and victimization are associated in the present sample.

Aggression and Victimization

An unambiguous and comprehensive definition of aggression has been difficult to identify (Parke & Slaby, 1983), though aggression is generally defined as a behaviour

that is intended to harm or deliver a noxious stimulus to another individual (Brigham, 1991; Hinde, 1978; Maccoby & Jacklin, 1974).

Forms of Aggression

In the human psychological literature, the categories of aggression set out by Buss (1961) comprise one of the best-established representations of the various forms of aggressive behaviours. Buss's view is that aggression can be categorized into dichotomies, one of which is physical versus verbal aggression. In the case of physical aggression, the assault involves using one's body or a weapon as the vehicle of harm, resulting in bodily pain/injury or being physically displaced or removed. For verbal aggression, the assault is delivered using one's voice, and the harm takes the form of rejection or threat. A second useful dichotomy is direct versus indirect aggression. Using direct aggression, the victim is attacked directly, whereas using indirect aggression, the victim is not present, but is attacked circuitously. An aggressive act can vary simultaneously in both dichotomies. For instance, indirect aggression can be verbal (e.g., spreading nasty rumours) or physical (e.g., damaging another's property).

There has been considerable confusion in the literature regarding distinctions among different forms of aggression. In particular, there are several overlapping terms used to describe certain non-physical forms of aggression, which are believed to be typically employed by females. In an early study which identified a form of aggression that was displayed more by girls than by boys, Feshbach (1969) used the term indirect aggression to refer to behaviours such as exclusion and rejection, which result in the infliction of social injuries. More recently, Bjorkqvist and his colleagues (Bjorkqvist, Osterman, & Kaukiainen, 1992) have defined indirect aggression as a type of behaviour

that involves social manipulation, in which the aggressor attempts to inflict pain on another in such a manner that it seems there was no intent to harm. Examples of this "female-typical" form of aggression include becoming friends with another as revenge, gossiping, and writing notes in which the victim is criticized (Osterman et al., 1994). Bjorkqvist and his colleagues distinguish among indirect, verbal, and physical aggression. Verbal aggression includes more directly aggressive behaviours such as insulting another or calling the other names, and physical aggression includes hitting, tripping, pushing, and taking things from the other.

Recently, Crick and Grotpeter (1995) coined the term "relational aggression" to describe the form of aggression thought to be more characteristic of females than of males. Relational aggression is defined as behaviours that harm others through damage (or the threat of damage) to their peer relationships or feelings of acceptance, friendship, or inclusion in the group (Crick, Bigbee, & Howes, 1996; Crick & Grotpeter, 1995). Relational aggression shares some behaviours with indirect aggression, for instance rumour spreading or ignoring. Some behaviours, though, are unique to relational aggression, and cannot be considered indirect because of their overt nature. An example is overt manipulation of friendship such as saying that you will not be the other's friend if she does not do what you want (Crick et al., 1999). Thus, relational aggression, although similar to indirect aggression, can also include aggressive behaviours of a direct nature. Crick makes the distinction between relational and overt aggression. Overt aggression is defined by Crick and her colleagues (Crick & Grotpeter, 1995; Crick et al., 1999) as aggression that harms through damage or the threat of damage to one's physical well-being, such as, "harming others through physical aggression, verbal threats, instrumental

intimidation" (p. 711). To use the term "overt" as the opposite of relational aggression is rather misleading, as relational aggression, as defined by Crick, includes aggressive acts of an overt (as opposed to covert) nature. A more appropriate term might be physical rather than overt. It is somewhat confusing though, that Crick and Grotpeter include on their overt aggression scale, the item: yells, calls others mean names. This clearly should not produce (or threaten to produce) damage to the victim's physical well-being, so it is not apparent why it is included as an item on their overt aggression scale. Moderately high to high associations have been reported between relational and overt aggression. A Pearson correlation of .62 was reported in a meta-analysis of peer-rated aggression data, carried out by Crick and her colleagues (Crick et al., 1999). When the correlations were examined separately by sex, it was found that relational and overt aggression were more highly correlated for boys (.75) than for girls (.60).

Cairns and his colleagues (Cairns et al., 1989) identified an important property of aggression in adolescent females which involves indirect strategies of social manipulation and ostracism. Aspects of this form of aggression, which they termed "social aggression", thus overlap with those of indirect and relational aggression. The term social aggression has also been used by Galen and Underwood (1997) to refer to behaviours that damage another's self-esteem or social status. This form of aggression, which can be direct or indirect, is meant to reflect the behaviours that are common in girls' aggression (e.g., verbal rejection, negative facial expressions, rumours, social exclusion) as opposed to the physical attacks and verbal threats of aggression that are more characteristic of boys. It could be argued, however, that the latter form of aggression can also represent an attempt to damage another's self-esteem or social status,

since, for boys, "macho" displays are associated with their social status (Moller, Hymel, & Rubin, 1992). Indeed, some researchers have pointed out that all aggression is social in nature, as it has to do with the social relations between individuals or groups (Baumeister & Sommer, 1997; Bjorkqvist, 2001).

As well, rather than being an attempt to damage or decrease another's status, a more important purpose of aggression could be simply to maintain or increase one's own status through decreasing another's. This idea is somewhat in contrast with the "intent to harm" criterion of aggression: rather than damaging another through the intent to harm per se, it could be that the harm is delivered through an attempt to maintain or increase one's own self-esteem or social status. In addition, that intent may not necessarily be known to the aggressor at a conscious level (Bjorkqvist, Osterman, & Kaukiainen, 1992). Though their notion of social aggression was intended to represent a typically female form of aggression, Galen and Underwood's (1997) definition of social aggression could be used to refer to both physical and non-physical aggression, and may help to provide a framework for understanding why both males and females aggress. That is, increasing one's social status could be an important aspect of aggression for both sexes, and males and females may have different manners of achieving this goal, depending on what is salient to them in terms of social status in their respective same-sex groups. As purported by Crick and Grotpeter (1995) sex differences in aggressive strategies would be expected to emerge in a manner consistent with the social concerns of boys and girls. Thus, because of the greater emphasis on physical dominance among boys' groups and relational issues among girls (Belle, 1989; Block, 1983), girls' aggression should be focused on increasing social status through peer relationships, whereas boys would be

most likely to focus on increasing social status through physical aggression or intimidation.

In the present study, aspects of relational (Crick & Grotpeter, 1995), indirect (Lagerspetz, Bjorkqvist, & Peltonen, 1988), and social (Cairns et al., 1989; Galen & Underwood, 1997) aggression will be examined. Using the method of Confirmatory Factor Analysis, an attempt will be made to devise a clear means of categorizing forms of aggression, integrating the various overlapping notions of non-physical aggression that have been posited in recent years. It seems useful to incorporate Buss' system of categorizing aggression into dichotomies. In particular, viewing aggression as varying on the dimensions of physical versus relational/indirect/social and direct versus indirect may allow for the inclusion of the types of aggression that have been posited but have not been well delineated as yet.

Because the existing definitions of aggression include an "intent to harm" criterion, which is not perceived by the present author as necessary in explaining aggression, the following definition is proposed: Aggression is viewed as behaviour that delivers a noxious stimulus to another person, who may be present or absent, with the intent (unconscious or conscious) of increasing one's own social status, or maintaining it through decreasing or attempting to decrease that of another.

Developmental Patterns of Sex Differences in Aggression

It is now generally accepted that physical aggression is more apparent among boys than girls as early as 2 or 3 years of age (Hyde, 1984; Maccoby & Jacklin, 1974, 1980; Rubin, Bukowski, & Parker, 1998; Tieger, 1980). The finding that boys are, on average, more physically aggressive than girls, has been replicated in several recent

studies, with children from preschool and elementary school age groups through to mid-adolescence (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Crick, Casas, & Mosher, 1997; McNeilly-Choque, Hart, Robinson, Nelson, & Olsen, 1996; Rys & Bear, 1997; see Block, 1983, for a review). Even taking into account overall activity level, which has been found to be higher among boys (Eaton & Enns, 1986), the finding has retained significance (Archer, Pearson, & Westeman, 1988).

Though boys remain higher than girls in levels of physical aggression over childhood and adolescence, for both boys and girls, physical aggression in general has been found to decrease with age (Crick & Grotpeter, 1995; Lagerspetz et al., 1988; Olweus, 1993b; Parke & Slaby, 1983). Between early and middle childhood, there is a trend away from physical and toward verbal aggression for both sexes (Bjorkqvist & Niemela, 1992; Feshbach, 1970; Hartup, 1974; Rubin et al., 1998). An exception to this finding was reported by Xie and Cairns (1999), with no developmental changes in aggressive style observed among girls and boys between Grades 4 and 7. With respect to direct, verbal aggression, many studies have reported no sex difference (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Lagerspetz et al., 1988; see Maccoby & Jacklin, 1974 for a review). When sex differences in direct verbal aggression have been reported, the findings have been somewhat equivocal, some pointing to a higher incidence in boys (e.g., Barrett, 1979; Whiting & Edwards, 1973), and others pointing to a higher incidence in girls (e.g., Archer & Westeman, 1981; Archer et al., 1988).

With the possible exception of direct verbal aggression, non-physical aggression has generally been found to be higher among girls. In an early experimental study of indirect aggression (defined as aggression that results in social injury), Feshbach (1969)

reported that first grade girls were more likely than boys to respond to a newcomer in their group with exclusion and rejection. As early as the preschool years and into the elementary school years, girls have been rated as more relationally aggressive than boys (Campbell & Frabutt, 1999; Crick et al., 1996; Crick, Casas & Mosher, 1997; Crick & Grotpeter, 1995; Crick et al., 1999; McNeilly-Choque et al., 1996). Bjorkqvist and his colleagues (Bjorkqvist, Osterman, & Kaukiainen, 1992; Lagerspetz et al., 1988) found that girls were rated as displaying significantly more indirect aggression than boys at ages 11 and 15, though no sex difference was apparent at age 8. Findings by Verlaan (1995), though, indicated no sex differences in indirect aggression among children in Grade 5 and 6. In the Cairns Longitudinal Study, girls in Grades 4 and 7 reported using more social aggression (social alienation and ostracism) compared to boys. As well, themes of social aggression among girls were more commonly reported in Grade 7 than in Grade 4, representing 10% of same-sex conflicts in Grade 4 and nearly 40% in Grade 7. This form of aggression was rarely reported by boys at either age, though boys in Grade 7 used significantly more social aggression than did boys in Grade 4 (Cairns et al., 1989; Xie & Cairns, 1999). Using their definition of social aggression, Galen and Underwood (1997) reported different developmental trends for boys and girls. Whereas for boys, self-ratings of social aggression decreased from Grade 4 to Grade 10, for girls, the reported frequency increased with age. Sex differences in social aggression were apparent for only the oldest of the three groups studied; groups of Grade 4 and Grade 7 girls and boys did not report any differences in the occurrence of either physical or social aggression, though in Grade 10, girls reported more social aggression than did boys.

Discrepant results in the female aggression literature, including the age at which sex differences emerge, could be a reflection of the use of different definitions and thus different measures for a "female-typical" form of aggression. In addition, it appears that different results can be found depending on how children are classified as aggressive. Rys and Bear (1997), using Crick's extreme-group method of classifying children into high and low aggression groups, found that more 3rd and 6th grade girls than boys were classified as relationally aggressive, though no sex differences emerged when mean scores in relational aggression for boys and girls were compared. In a recent study, Bergevin (1998) reported no sex differences in the rates of relational aggression among young adolescents, using both extreme group and mean scores. In examining rates of physical and relational aggression within-sex, though, Bergevin found that girls employed more relational than physical aggression, whereas boys employed more physical than relational aggression. Thus, it may be that boys and girls use relationally aggressive strategies to an equal extent, though for girls but not boys, it is the "strategy of choice". Similar within-sex rates of aggression have also been reported in a recent cross-cultural study by Osterman et al., (1998). Indirect aggression was the style found to be used most often by girls at ages 8, 11, and 15. Verbal aggression was the second most frequent form, and physical was the least. For boys, indirect aggression was the form used least by all three age groups, and there were no differences between rates of physical and verbal aggression, except in the oldest age group (age 15).

Forms of Victimization

As styles of aggression seem to vary across sex and developmental period, so do the experiences of victims. For the purposes of this paper, victimization is defined as

being the recipient of aggressive behaviour (defined above). As is the case with aggression, researchers have made distinctions among various forms of victimization.

Perry, Kusel, and Perry (1988) distinguished between physical and verbal victimization, the latter including behaviours such as being made fun of and getting called names, and found that, in general, boys experienced more victimization than girls, and verbal victimization seemed to occur more than physical. Additionally, it was reported that physical victimization decreased with age, whereas verbal victimization remained stable. In the cross-cultural study by Osterman and colleagues (1998), rates of different forms of victimization were also found to differ by age and by sex. Girls at age 8 were equally likely to be victims of all three forms of aggression studied (indirect, physical, and verbal). At age 11, verbal victimization, and at age 15, indirect victimization was the most frequently experienced. For boys at all ages, indirect victimization was the least frequently experienced. At age 8, boys were equally likely to be victims of verbal and physical aggression, and at ages 11 and 15, verbal victimization was the most frequently experienced.

As with aggression, Crick and Grotpeter (1996) have distinguished between relational and overt victimization. They reported that 3rd through 6th grade boys experienced more overt victimization than girls, though no sex differences emerged for relational victimization. The finding that boys experience more overt or physical victimization has been consistent across several studies (Ku, 1997; Paquette & Underwood, 1999; Rivers & Smith, 1994). The findings for relational, indirect and social victimization, though, have been more equivocal. Rivers and Smith reported that girls were found to experience more indirect victimization (no one would talk to me, rumours

spread) than boys. This latter finding is consistent with those of Olweus (1991, 1993a) and Ku (1997). With respect to verbal aggression (name-calling, threatening), girls have sometimes been found to be slightly more likely than boys to be victims, though this finding has not been consistent across studies (Rivers & Smith, 1994; Whitney & Smith, 1993). All three types of victimization have been found to be reported less by secondary than primary school-age children (Olweus, 1993b; Rivers & Smith, 1994). Social victimization was reported by Paquette and Underwood (1999) to be experienced to the same extent by girls and boys in seventh and eighth grades. The most commonly-reported specific incident of social aggression was being the target of gossip, which was reported by 67% of the adolescents in the study. High correlations have been reported between physical and relational victimization (between .57 and .76; Crick & Bigbee, 1998; Crick & Grotpeter, 1996; Nukulkij et al., 2000), indicating that children who are victims of one form of aggression are likely to be victims of the other form as well.

Although the large majority of children who experience peer victimization are considered to be "passive" victims, the general consensus from the literature is that approximately 4% to 8% of victims are likely to engage in aggressive behaviour themselves (Schwartz, Proctor, & Chien, 2001), though higher rates have been reported. In an observational study, Atlas and Peplar (1998) reported that approximately 40% of the children who were victimized in at least one episode of aggression were also the aggressors in at least one episode. To date, no published studies have examined sex differences in victimization as a function of type of aggression, though, in a study by Crick (1997), it was reported that social-psychological maladjustment was higher among boys and girls who displayed gender non-normative aggression; that is, boys who

displayed relational aggression were more maladjusted than girls who displayed relational aggression, and girls who displayed overt aggression were more maladjusted than boys who displayed overt aggression. Crick posited that the adjustment difficulties experienced by children who violate gender norms are exacerbated by the peer rejection that is a consequence of their gender role transgression. This assertion is consistent with the results of studies that have examined children's reactions to gender normative and non-normative behaviour in their peers, and have found that gender non-normative behaviours are punished by peers and seem to have a negative effect on a child's peer acceptance (Carter & McCloskey, 1984; Connor, Serbin, & Ender, 1978; Fagot, 1977; Sroufe, Bennett, Englund, & Urban, 1993). In general, boys have been found to approve of aggression and expect more rewards and fewer punishments compared to girls for acting overtly aggressive, and this type of aggression is reported by boys to be more common in their peer groups. Girls, on the other hand, may be more tolerant of relational aggression, as they report relational aggression to be more common in their peer groups than do boys (Crick et al., 1996; Huesmann, Guerra, Zelli, & Miller, 1992; Perry, Perry, & Weiss, 1989).

Current hypotheses for sex differences in aggression

Although several theories have been used to explain sex differences in aggression, the focus tends to be on aggression that is more typical of males than of females. When explanations for female aggression have been offered, a bias towards physical aggression is still evident. In many reports, rather than examining why females might use relational/indirect/social aggression, the tendency is to suggest why females do not use physical means of aggression. By far the most common explanation for girls' lesser use

of physical aggression has to do with the differential socialization of boys and girls. Several studies have reported that girls and women experience more guilt and anxiety than do boys and men over direct expressions of aggression (Brodzinsky, Messer, & Tew, 1979; Frodi, Macaulay, & Thome, 1977), which is presumed to be a result of society's discouragement of direct, physical aggression in females (White & Kowalski, 1994). According to proponents of this theory, females' aggressive impulses are thus inhibited or are released in a more socially acceptable (i.e., indirect) manner (Brodzinsky et al., 1979; Lagerspetz et al., 1988; Bjorkqvist & Niemela, 1992). This explanation suggests a sort of "hydraulic" model of aggression: that is, if aggressive energy cannot be expressed via one pathway, it will be expressed via another. Even if it is true that direct physical aggression is discouraged more for females than for males. we are still lacking a full explanation for why females employ such aggressive tactics as social exclusion or manipulation of another's relationships. Surely there are other alternatives to harming another individual in a direct, physical manner. Why relational, indirect, or social aggression would be the "strategy of choice" among females is not addressed by this argument.

Similar shortcomings are found in the biological explanations for sex differences in aggression. The notion that boys are more physically aggressive due to a biological preparedness (higher testosterone levels) has been debated for decades (Benton, 1992; Maccoby & Jacklin, 1974, 1980; Tieger, 1980). A gap is evident in this literature, in that biological explanations focus on levels of testosterone, which have been linked to physical aggression; lower levels of testosterone have never been hypothesized to lead to a typically female form of aggression, only to the relative absence of physical aggression. Some authors have suggested that females' relatively smaller size and weakness are

factors in their avoidance of physical aggression and resultant use of less risky, indirect methods (Bjorkqvist, 1994; Bjorkqvist, Osterman, & Kaukiainen, 1992). Given that the majority of aggression during childhood and early adolescence is within-sex (Lagerspetz & Bjorkqvist, 1992; Mynard & Joseph, 2000), this explanation does not provide a legitimate reason for girls avoiding physical fights with other girls, who are presumably of comparable size and strength. This explanation seems to account for neither girls' lesser use of physical aggression nor their greater use of relationally aggressive strategies.

Although they may further our understanding of sex differences in the use of physical aggression, these lines of reasoning do not truly account for the emergence of relational aggression for girls as an alternative to physical aggression (see Bardwick, 1971). In an effort to fill such gaps in our understanding of female aggression, Crick and Grotpeter (1995) proposed that boys and girls aggress or inflict harm on others in ways that will best damage the social goals that are valued by each sex. In this view, boys use physical aggression because of the association of physical or athletic abilities with boys' peer status (Coleman, 1961; Crockett, Losoff, & Petersen, 1984). Relational aggression is a more salient strategy for girls because of the importance of relational issues in girls' peer groups. It has been suggested as well that the social structure of girls' peer groups during adolescence may be a factor that facilitates the learning and use of relationally aggressive strategies. Whereas boys' peer groups tend to be large and activity-focused, those of girls are comparatively small and relationship oriented (see Block, 1983, for a review; Lagerspetz et al., 1988). These close-knit social groups encourage and allow intimacy, which in turn provides opportunities for using relationships as vehicles of aggression (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Crick & Grotpeter, 1995;

Lagerspetz et al., 1988). Girls' and boys' friendships have been found to possess qualitative differences; friendships have been reported to be of greater emotional significance to girls compared to boys (Lagerspetz et al., 1988), there is more self-disclosure in girls' as compared to boys' friendships (Buhrmester & Prager, 1995), and girls have been found to worry more about faithfulness and rejection in friendships (see Belle, 1989; Berndt, 1982). Given the increased self-disclosure in girls' compared to boys' friendships, the latter is perhaps not surprising, as girls tend to give their friends information that could be used against them if the friend were not trustworthy or if the friendship ended.

It is clear that the importance of relationships for girls makes those relationships potent vehicles for harming one another, and that the close-knit nature of girls' social groups provides fertile ground for a relational form of aggression. That relationships hold more importance in groups of girls may be consistent with their greater use of relational aggression, yet it does not explain why relational aggression might be the strategy of choice for girls more so than for boys. Crick's notion that boys and girls use aggression in ways that will best harm the social goals of the victim is consistent with the "intent to harm" criterion of aggression. This implies that children are motivated to "get their victim where it hurts". In contrast, aggression in the present paper is viewed as having a less malicious, and more self-centred function, that is, to maintain or increase one's social status within the respective gender group. If aggression is viewed as a means of increasing one's own social ranking, or maintaining it through decreasing another's, then it is reasonable to expect that girls and boys, whose peer groups are presumed to

differ with respect to what is deemed important to status, would differ in the manner in which they attempt to increase or maintain their social status.

Dominance/Social Rank

The concept of dominance/social rank may be useful in providing an explanation for the use of different aggressive strategies among boys and girls, as well as understanding why some children are aggressors and others victims. The term "dominance" refers to the relative balance of power between individuals, at a dyadic or group level (Fedigan, 1982; Strayer & Strayer, 1976). A dominance hierarchy is a group which is organized in order of dominance rank, or relative position, according to some value system or set of criteria. Dominance is generally manifested in an individual's priority over others in accessing and using desired resources such as food, space, social companions or sexual partners (Edelman & Omark, 1973; Fedigan, 1982). Thus higher dominance rank, which is often established through the use of aggressive interactions (Hawley & Little, 1999), is generally related to greater access to desired resources (for a recent review of dominance in primate and children's social groups, see Hawley, 1999).

Sex Differences in Dominance Hierarchies in Children and Adolescents

Dominance hierarchies in children's groups have been of interest for decades. In one of the first observational accounts, Mead (1935, cited in Savin-Williams, 1980) for instance, reported on dominance patterns in the structure of children's groups. In the group she studied, she noted that the relative dominance among the boys was very noticeable, but among the girls, was less marked. Since then, other authors have suggested that dominance hierarchies are less apparent or even lacking in girls groups (Cronin, 1980; McGrew, 1972). As with the research on aggression, research that has

examined dominance hierarchies in human males and females has generally been done from a male perspective, that is with an emphasis on more visible physical forms of dominance-related strategies and an almost total neglect of those that are less visible or direct. As such, little is known about sex differences in the use of aggression to establish dominance, and in particular the forms of aggression typically used by females for this purpose.

The bias toward "male" forms of dominance establishment is evident in most of the earliest studies on human dominance hierarchies, which were carried out with preschool-aged children. McGrew (1972), for example, reported a nearly linear hierarchy of dominance based on boys' wins and losses during struggles for objects or for space (it was reported that girls did not engage in enough of these behaviours to construct a hierarchy). The higher-ranking boys in McGrew's study tended to be older, heavier, and to have more nursery school experience than subordinate boys. To establish the dominance hierarchy of a kindergarten class, Omark, Omark, and Edelman (1975) asked children to rate the "toughness" of each child in the class. Not surprisingly, boys tended to be placed at the top of the hierarchy and girls at the bottom. A series of studies by Strayer and Strayer (1976; 1978; 1980) represent the most systematic research programme on dominance hierarchies in children, and their findings helped build the argument that dominance hierarchies do indeed exist among young children. Nonetheless, their focus tended to be on physical struggles and, like the other studies of this age group, cannot provide information on sex differences in ways of establishing dominance. In concentrating on physical aspects of dominance, these studies seem to have overlooked females and their possible use of less-visible forms of dominance

establishment or aggression. Hawley and Little (1999) included more non-physical indicators of dominance (e.g., directing others' behaviour, imitating) in their study of preschoolers, and found that the higher the child's social dominance rank, the more likely he or she was to issue instructions, vocally or physically thwart another's behaviour, and take things from another. The strongest predictor of social dominance rank in their study was developmental maturity (age, size and mental age).

Several studies of dominance in adolescent groups have broadened the concept of dominance beyond the physical attacks and struggles seen in the majority of studies of preschoolers. This research has thus allowed for an examination of dominance in groups of females, though findings pertaining to sex differences are limited by the small number of studies in this area with females as participants. Savin-Williams conducted several landmark studies of dominance hierarchies in groups of both male and female adolescents (12 to 14 years old) at summer camps (Savin-Williams, 1976; 1977; 1979; 1980). Using measures of dominance which would be salient not only to boys but also to girls (e.g., verbal directives, name-calling, recognition of another's higher position by asking advice, physical or verbal threat, and sociometric rankings of "authority" and "leadership"), he found that within days of meeting each other, the adolescents had formed stable dominance hierarchies. The most frequently observed index of dominance for both boys and girls was verbal ridicule (Savin-Williams, 1976; 1979), which might be expected given the trend toward replacing physical with verbal aggression during childhood as noted earlier. Boys' dominance rank order was found to be most highly correlated with bed position (the distance of one's bed from that of the cabin counsellor), athletic ability, leadership, physical fitness, and pubertal maturation (Savin-Williams, 1976; 1977; 1979).

Athletic ability and attractiveness were found to be related to dominance status in a study of older adolescent males (aged 15 to 18) , carried out by Weisfeld and his colleagues (Weisfeld, Bloch, & Ivers, 1983).

For females, as with males in the summer camp studies, relative dominance ranking was found by Savin-Williams (1979) to be highly correlated with athletic ability, pubertal maturation, and leadership. Peer popularity, however, was associated with girls' but not boys' rank order. Interestingly, Savin-Williams noted that girls were far less likely than boys to use overt forms of dominance. Whereas boys were likely to assert their dominance through "power"-related behaviours, such as physical assertion and verbal arguments, girls tended to assert dominance through evaluative behaviour, such as recognizing the status of another, giving unsolicited advice, as well as shunning and ignoring another (Savin-Williams, 1980). It is interesting that this researcher interpreted these behaviours, the latter two of which are relationally aggressive strategies, as assertions of dominance, rather than examples of aggression per se, although aggression is one way to assert dominance. This interpretation is consistent with the definition of aggression proposed in the present paper, that is, that the function of aggression should more appropriately be considered to be the assertion of dominance, rather than an intent to harm the victim.

Given the sex differences in the manner in which boys and girls asserted their dominance, it seems somewhat incongruous that most of the characteristics associated with higher rank (leadership, athletic ability, and pubertal maturation) would be identical for both sexes. Perhaps a characteristic such as athletic ability would be more salient in girls' groups during a summer camp experience than it would be in a school setting, due

to a higher emphasis on physical activities in camp. Indeed, for children and adolescents, the determinants of one's status are expected to shift as peer activities change (Steinberg, 1989). Accordingly, studies of rank-related characteristics in school settings present a different picture than those that were carried out in a summer camp situation. Weisfeld, Bloch, and Ivers (1984), using data collected in several high schools, found that, though there was a minor association between dominance and athletic ability, girls' dominance was more strongly related to being rated by peers as attractive, fashionable and well-groomed. In the late 1950s, when Coleman (1961) asked adolescents to state what it took to "get into the leading crowd" (a high status position) in their school, clear sex differences emerged. For boys but not girls, athleticism was an attribute deemed important to status, whereas for girls but not boys, good looks and good clothes ranked among the most important attributes. More recent data corroborate Coleman's findings. Crockett et al. (1984) reported that athletics was considered the most important quality for a boy's status, whereas for girls, appearance ranked most highly, and athletics the least.

When girls and boys talk or gossip about other same-sex peers, their discussions tend to focus on these dominance-related characteristics, lending further support that they represent qualities that are important to the respective peer groups. Gossip in males, though, has been found to be less prevalent than in females, and when it occurs, it tends to involve less negative evaluation about others (Leaper & Holliday, 1995). When boys do talk about their peers, the focus is often on athletic prowess, a male dominance-related characteristic. The main topics of gossip among the girls is often the appearance of others and the "conceited" behaviour of particular girls (Buhrmester, 1995; Eder & Enke,

1991). It is important that social status/dominance not be confused with one's likeability or popularity. Though the concepts may be related to one another, children who are dominant are not necessarily popular. An example might be school bullies, who are dominant, in that they may have priority to desired resources such as space, but they are not likely to be well liked by other children (popular). This dominance/popularity discrepancy may be somewhat age-related, though. Wright and his colleagues (Wright, Zakriski, & Fisher, 1996) reported that, among boys, peer-rated dominance was related to sociometric status for 13-year-olds, though this was not the case for younger children. In accordance with the use of aggression to establish dominance, among 10-year-olds, dominance was associated with hitting and bullying behaviours.

Familial and Individual Characteristics of Aggressors and Victims

In addition to dominance, many other factors have been studied to determine the extent to which they are associated with peer aggression and victimization. In the following section, some of these factors, as well as some which have not received attention in the aggression and victimization literature, will be reviewed. Factors both within the family and within the individual child are important in examining what might be predictive of a child's aggressor/victim status, as well as the factors that may determine the type of aggression in which a child will be involved.

Parenting Styles

Parent-child interactions form the basis for children's expectations and assumptions about relationships and interactions with others (Hartup, 1985). Perry, Hodges, and Egan (2001) proposed that a family-relational schema can be used to explain how family behaviours and interactions are conducive to aggression as well as

victimization in children. One family factor that has received attention in the literature on peer aggression is parenting styles. Two major dimensions of parenting behaviours, responsiveness and demandingness have been identified as global indicators of the parent-child relationship, and have been found to be critical to children's social and emotional development (Baumrind, 1967, 1971, 1991; Maccoby & Martin, 1983). Responsiveness, also referred to as warmth, acceptance, or involvement, is an indicator of the extent to which parents are accepting, affectionate, understanding, and child-centered. Responsive parents use frequent praise and little punishment; they are firm but warm in their interactions with their children. Demandingness, which is also referred to as control, strictness or supervision, is an indicator of the extent to which parents enforce rules and impose restrictions on their children's behaviour.

Consistent with the framework outlined by Maccoby and Martin (1983), four parenting types are examined in the present study, representing the combined effects of acceptance/involvement and strictness/supervision. As parents vary on these dimensions, their parenting styles can be classified into one of four types, which have been shown to be important in understanding parents' influence on their children. In authoritarian households, parents are low in acceptance/involvement and high in strictness/supervision. These parents value obedience in their children and do not encourage verbal give-and-take between themselves and the children, but rather believe that children should accept parental rules and decisions without question or discussion. Authoritative parents are high on both acceptance/involvement and strictness/supervision. They place high value on their child's developing autonomy rather than obedience, and encourage verbal give-and-take, involving their children in discussions and sharing with them the reasoning

behind parental policies (Baumrind, 1989). Optimal development seems to occur in an authoritative home, in which children have the opportunity to become autonomous, self-assured, and socially skilled (Maccoby & Martin, 1983). Across ethnicity, socio-economic status, and family structure, adolescents who perceive their parents as authoritative have been found, relative to those from authoritarian and permissive homes, to have more positive ratings of competence and adjustment across a number of domains, including academics, behaviour, delinquency, and psychosocial development (Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, Mounts, Lamborn, & Dornbusch, 1991). Compared to those from authoritative households, children from authoritarian households have been found to be less self-assured, socially adept, independent and dominant, and more passive.

Permissive parents are low in strictness/supervision. Lack of parental monitoring has been found to be positively associated with relational and physical aggression in boys and girls (Carlo, Raffaelli, Laible, & Meyer, 1998; Stocker, 2000). These parents allow their children to disregard their wishes, finding it hard to exercise power over their children. Both permissive-indulgent and permissive-neglectful parents exert little control over their children, but permissive-indulgent parents have high, whereas permissive neglectful parents have low levels of acceptance/involvement. Adolescents from both types of permissive households tend to have higher rates of school misconduct, delinquency and drug use compared to those from authoritative or authoritarian households (Lamborn et al., 1991). A child's opportunities for engaging in peer aggression should be limited by the extent to which they are supervised by their parents (Parke & Slaby, 1983). When parents are generally permissive, and clear limits are not

set on the child's behaviour, aggressive behaviour may be tolerated in the home, and the child's overall level of aggression may be expected to be elevated (Olweus, 1993b). Research has shown that parents monitor girls more closely than boys, according to both parent and adolescent report, and adolescent girls have been found to rate their parents higher on parental involvement compared to males (Carlo et al., 1998; Huston, 1983).

Different parenting styles can be thought of as corresponding to different types of power structures or "dominance hierarchies" in the family. In a strongly hierarchical household like an authoritarian one, where children are expected to do as they are told and not to ask why, they have very little power, or are at the bottom of the household dominance hierarchy. Conversely, in permissive homes, where the children themselves have a great deal of power, perhaps making decisions about their own behaviour, they can be seen as being at or near the top of the household hierarchy.

In the family-relational schema model (Perry et al., 2001), interactions that children experience with their parents become internalised to form a model of relationships and interactions with others. Thus, in permissive households, which are low in monitoring or in placing restrictions on the child's behaviour or whereabouts, the child has a notion of him or herself as having succeeded in subordinating his or her parents, and of him or herself as being dominant. Internalized "aggression-promoting" schemas place the self in a dominant, controlling role; "victim" schemas, as in households in which children hold very little power (i.e., authoritarian), are conducive to the child assuming a subordinate role with others, who may be perceived to be more powerful.

We might expect, then, that a child who feels powerless at home will carry that powerlessness over into his or her peer relationships. Thus, the child who is low on the

dominance hierarchy at home (i.e., comes from an authoritarian household; high supervision, low involvement) may be expected to be low in dominance rank at school as well, and may then be more likely to experience victimization. The child who is high in dominance ranking at home (i.e., comes from a permissive home; low supervision, high or low involvement), or has a great deal of power, may also be high in rank or powerful at school, and may be more likely to be involved in bullying.

Self-Discrepancy

Seeing oneself as possessing desired characteristics may be an important factor in determining why some children become involved in aggression/victimization. Because aggression can be used as a means of establishing dominance, it would be reasonable to assume that children who feel secure in their social rank would not feel the need to use aggression. Whether a child feels secure in his or her social rank is certainly a subjective experience. Security could stem from perceiving oneself as possessing the characteristics that are related to dominance by the respective gender group. Insecurity, on the other hand, could result from feeling inadequate in the extent to which one possesses those valued characteristics. Self-Discrepancy Theory (Higgins, 1987, 1991) provides a framework for understanding the experiences of bullies and victims, as it makes distinctions between how one actually perceives oneself, and how one would like to be or feels one ought to be. Higgins distinguishes among: (a) the actual self, representing the attributes that you or a significant other believes you actually possess, (b) the ideal self, representing the attributes you or others would like you, ideally, to possess, and (c) the ought self, representing the attributes that you or others believe you ought to possess. Higgins maintains that different types of discrepancies will produce different types of

psychological distress, and that the magnitude of the discrepancies is critical in determining the degree of maladjustment in a given individual. A discrepancy between one's actual and ideal self, according to Higgins, produces dejection-related emotions such as sadness, discouragement and depression. Victimization has also been found to be related to such states. Children who are victimized tend to be socially isolated, withdrawn, anxious, and inhibited, with a negative view of themselves and their situation (Olweus, 1978, 1991, 1992). Furthermore, depressed affect has been found to increase with higher ratings of victimization (Ku, 1997; Neary & Joseph, 1994). It is expected, then, that victimization could be positively related to the magnitude of a child's actual-ideal self discrepancy.

Discrepancies between one's actual and ought selves are believed to produce agitation-related emotions such as feeling on edge, or threatened (Higgins, 1987, 1991). In a general sense, feeling threatened is closely tied to the use of aggression. If a child feels that access to desired resources is threatened, aggression is a means by which those resources could be defended. This notion is consistent with Weisbuch (1999), who has proposed that the negative emotions associated with an actual-ought self-discrepancy should be related to increased aggression. He further hypothesized that discrepancies specific to masculinity should have a strong effect on aggressive tendencies, as the masculine gender role includes acting aggressively, and that behaving in an aggressive manner could serve to reduce such discrepancies. The findings of his study of adult males indicated that men who had higher "ought" discrepancies were more likely to engage in covert, as opposed to overt, aggression during a competitive laboratory task. To explain the use of more "female-typical" aggressive strategies among men with higher

"ought" discrepancies, Weisbuch proposed that such men may have higher fears of retaliation, thereby acting aggressively in a manner which would decrease such a risk. Self-discrepancy has been studied almost exclusively in the context of adults, and has received little attention in the child literature. Two published studies on children's peer relationships have included measures of self-discrepancy, and seem relevant to what we have termed "social importance."

Social Importance

Self-discrepancy was found by Rubin and her colleagues (Rubin, Cohen, Houston, & Cockrel, 1996) to have a strong motivational component. That is, children with high self-discrepancies may place more importance on their social status, and may thus be motivated to improve their status in the peer group, compared to those children with lower self-discrepancies. Brown and Kafer (1994) found that the number and magnitude of a child's self-discrepancies were related to a perception of lack of peer acceptance. Both aggressors and victims were expected to have high self-discrepancies, and were thus expected to be motivated to improve their status within the peer domain, and to place more importance on their peers' acceptance or them. In the present paper, we use the term "social importance" to refer to the amount of importance an individual places on others' perception of him or her. The motivation to improve one's social status would be expected to manifest itself, for aggressors, through aggressive attempts to maintain or increase dominance status, and for victims, perhaps by attempting to please one's peers through being unassertive and subordinating ones self to others. Social importance, then, should be predictive of both aggression and victimization. With respect to males in particular, Weisbuch (1999) reported that covert, but not overt,

aggression in adult males increased in a direct manner with the importance the individual placed on the "masculine" characteristics involved in self-discrepancies, though the amount of importance one places on others' perceptions that one possesses these valued characteristics has not been investigated. It would be of interest to examine aggression as predicted by the amount of social importance an individual places on possessing "feminine" characteristics. To date, no published studies exist that have examined the relation between aggression/victimization and social importance, or the amount of importance one places on one's peers believing he or she possesses valued characteristics. Research on children's peer relations has determined that girls tend to place more importance on relational issues than do boys, and boys place more importance on physical dominance than do girls (Belle, 1989; Block, 1983). If children employ the aggressive strategy that is consistent with the social concerns of their respective gender group, then we would expect girls to place more social importance on female dominance-related characteristics, which include qualities of a relational nature (i.e., popularity) and thus be involved in relational aggression. Boys would be expected to place more social importance on male dominance-related characteristics, and to thus be involved in physical aggression. Within-sex differences would be expected as well, however, with those children, male or female, who place more importance on female or male dominance-related characteristics, to be more relationally or physically aggressive/victimized, respectively.

Self-Efficacy

According to Bandura (1977), a major determinant of one's actions is one's sense of self-efficacy. In his self-efficacy theory, Bandura distinguishes between two kinds of

expectations about the self: outcome and efficacy expectations. Bandura defines an outcome expectancy as "a person's estimate that a given behaviour will lead to certain outcomes", whereas an efficacy expectation is "the conviction that one can successfully execute the behaviour required to produce the outcome" (p. 193). In Bandura's theory, outcome and efficacy expectations are distinguished from one another because they can vary independently. For example, an individual can have high outcome expectations, expecting that his or her behaviour would determine the outcome, yet have low efficacy expectations, believing he or she is incapable of producing the necessary behaviour.

General indices of self-efficacy are believed to be virtually unrelated to efficacy in specific domains, and one's sense of efficacy in one domain is not necessarily related to that in another domain (Bandura, 1997). For that reason, as Bandura has pointed out, when measuring self-efficacy, it is important that the instrument be tailored for the specific domain of interest, if exploratory and predictive power are to be achieved. The benefits of high self-efficacy and the deleterious effects of low self-efficacy have been demonstrated with behaviours in a variety of domains, including academic performance, health, addictions, phobias, and athletics (see Bandura, 1997). Studies on self-efficacy in the general social domain have shown that social self-efficacy is positively related to favourable peer ratings of social competence (e.g., popularity, social influence) (Connolly, 1989; Wheeler & Ladd, 1982). Some research has focused on the self-efficacy beliefs of aggressive children. Perry, Perry, and Rasmussen (1986) reported no difference between aggressive and non-aggressive children in social self-efficacy, as measured with the Wheeler and Ladd (1982) Children's Self-Efficacy for Peer Interactions Scale. They did report, though, that aggressive children had higher self-

efficacy for aggression compared to their non-aggressive peers. That is, they were more confident in their ability to carry out aggressive acts. Similar findings were reported by Erdley and Asher (1996). In contrast to the latter findings, no differences were reported in self-efficacy for aggression between aggressive and non-aggressive boys in a study by Cuddy and Frame (1991). With respect to outcome expectations for aggression, several researchers have found that aggressive children expect more positive outcomes for aggressive acts compared to their non-aggressive peers (Cuddy & Frame, 1991; Perry et al., 1986; Slaby & Guerra, 1988), and that boys generally expect more positive outcomes than do girls for aggression (Perry et al., 1986; Perry et al., 1989). It is important to note, though, that only direct physical and verbal aggression have been studied in the context of self-efficacy.

To date, no published studies exist which examine the self-efficacy beliefs of victims of peer aggression. It would be expected that children who are victimized by their peers would have lower self-efficacy for aggression, given that they are not likely to engage in such behaviour. They might also be expected to feel less capable of using verbal persuasion to negotiate conflict and non-conflict situations. Victims have been found to be unassertive and even submissive in their social interactions, and to make fewer attempts to non-aggressively influence the behaviour of their peers (Olweus, 1978; Schwartz, Dodge, & Coie, 1993). With respect to their outcome expectancies for aggression, victims might not engage in aggressive acts in part because they do not feel the outcome would be positive; on the other hand, victimized children may feel that fighting back would be positive, or beneficial to their social status, but they do not do it simply because they do not feel they are capable. Without an existing literature on this

topic, it is difficult to state a hypothesis, thus this particular question is largely exploratory in nature.

Questions and Hypotheses

Question 1

What is the most parsimonious system of conceptualising forms of aggression and victimization?

To sort out the overlapping concepts of forms of aggression, and the various terms used to identify them, a Confirmatory Factor Analysis (CFA) was carried out on 12 items of aggression. Six items were chosen to represent examples of relational (Crick & Grotpeter, 1995), indirect (Lagerspetz et al., 1988), and social (Cairns et al., 1989; Galen & Underwood, 1997) aggression, and six items represented physical aggression. For the sake of simplicity, the term "relational aggression" was used as an overarching term to encompass Crick and her colleagues' "relational", Bjorkqvist and his colleagues' "indirect", and Cairns and his colleagues', and Galen and Underwood's "social" aggression.

Based on the category system set out by Buss (1961), items representing the two forms of aggression (relational and physical) were further categorized according to whether they were direct versus indirect. Thus, an aggressive act could be direct-relational (e.g., telling someone you will stop liking him/her if he/she does not do as you say), indirect-relational (e.g., telling others not to like someone), direct-physical (e.g., hitting), or indirect-physical (e.g., throwing something at someone, then looking away as if you didn't do anything). In the CFA for victimization, six items were chosen to

represent being the recipient of the acts of aggression that were used in the CFA for aggression.

Question 2

Do sex differences exist in styles of aggression and victimization, and if so, what is the nature of these differences?

Based on previous research, it was expected that boys would be rated as more physically aggressive than girls, and that girls would be rated as more relationally aggressive than boys. No hypotheses were put forth regarding developmental trends.

Question 3a

(How) does family dominance structure predict children's peer dominance status?

It was expected that differences would exist in the perceived parenting styles of children who were peer-rated as high or low dominance. In particular, children who rated their parents as being low in warmth/involvement and high in strictness/supervision (consistent with an authoritarian parenting style) were expected to be more likely to be rated as low in dominance, whereas children who perceived their parents are being either high or low in warmth/involvement and low in strictness/supervision (consistent with permissive parenting styles) were expected to be more likely to be rated as high in dominance.

Question 3b

What are the individual factors related to different types of aggression and victimization?

Higher peer-ratings of dominance were expected to be predictive of aggression, and lower peer-ratings of dominance were expected to be predictive of victimization.

Dominance in girls was expected to be more predictive of relational aggression whereas dominance in boys was expected to be more predictive of physical aggression.

Children who were rated as relationally aggressive were expected to have larger than average actual-ought self-discrepancies for female dominance-related characteristic, that is they were expected to report that they should be more good-looking, fashionable and popular than they are. Children who were rated as physically aggressive were expected to have larger than average actual-ought self-discrepancies for male dominance-related characteristic, that is they were expected to report that they should be tougher, more athletic and a better leader than they are. Children who were victims of relational aggression were expected to have higher actual-ideal self-discrepancies for female dominance-related characteristics, that is, they were expected to report that they would like to be more good-looking, fashionable and popular. Children who were victims of physical aggression were expected to have higher actual-ideal self-discrepancies for male dominance-related characteristics, that is, they were expected to report that they would like to be more tough, athletic, and a better leader.

Children who were rated as aggressive were expected to report that it is relatively easy to carry out aggressive acts, as measured by self-efficacy for aggression. As well, aggressive children were expected to anticipate more positive consequences for their aggressive acts, as measured by self-reward and peer approval for aggression. Aggressive children were also expected to feel less confident in their ability to handle conflict situations using verbal persuasion skills to handle conflicts, as measured by social self-efficacy for conflict situations. It was also hypothesized that aggressive children would be less confident in their ability to use verbal persuasion skills to handle

non-conflict situations, as measured by their social self-efficacy for non-conflict situations. Victimized children were expected to have lower self-efficacy for aggression. Like their aggressive counterparts, they were also expected to have lower social self-efficacy for conflict as well as non-conflict situations. No hypotheses were put forth regarding outcome expectancies for aggression among victimized children.

Whether an aggressive child enacts his/her aggression in a physical or a relational manner was expected to be determined by that child's ratings of social importance for dominance-related characteristics. The hypotheses set forth regarding social importance were that children, regardless of their sex, who rated themselves as higher on social importance for female dominance-related characteristics (i.e., who placed more importance on their peers' perception of them as being good-looking, fashionable, and popular), were expected to be rated higher in relational aggression, whereas those who rated themselves higher on social importance for male dominance-related characteristics (i.e., who placed more importance on their peers' perception of them as being tough, athletic, and a good leader), were expected to be rated as higher in physical aggression. Victimization was expected to be predicted by social importance as well, as those children who feel the need to please others, placing higher importance on peers perceptions that they possess dominance-related characteristics, may be more likely to act in a subordinate manner and thus be rated by their peers as victims. As with aggression, relational victimization was expected to be related to higher social importance for female dominance-related characteristics, and physical victimization was expected to be related to higher social importance for male dominance-related characteristics.

Question 4

(How) are aggression and victimization related in the present sample?

It was expected that aggression and victimization would be significantly correlated for both boys and girls in this sample. Previous research has demonstrated that both boys and girls who display "gender non-normative" aggression (i.e., boys who are relationally aggression and girls who are physically aggressive) are at greater risk for maladjustment, which may be in part a consequence of peer non-acceptance for their gender role transgression (Crick, 1997). Thus, relational aggression was expected to be more predictive of victimization for boys than for girls, and physical aggression was expected to be more predictive of victimization for girls than for boys.

METHOD

Participants

Participants were 367 children (191 girls and 176 boys) from Grade 5 and 6, from five elementary schools in the Lakeshore School Board district outside of Montreal, Quebec. The average age of children in Grade 5 was 10.9 years and in Grade 6 was 11.8 years. The schools were in middle-class areas, and the ethnic composition of the sample was predominantly European-Canadian. A total of 545 parent information letters and consent forms (Appendix A) were given to children in the five schools, with a return rate of 83%. Of those, 84 parents did not consent to their child's participation, and the final participation rate was 68%. Although 368 children participated in the study, one student's questionnaire was not used in the analyses, as he had recently emigrated to Canada and did not read English well enough to fully comprehend the questions.

Measures

Measures of relational and physical aggression, victimization, and dominance were combined into one 27-item self- and peer-rating instrument (see Appendix B). All other variables were measured using self-report questionnaires.

Aggression, Victimization, and Dominance

Each participant rated him/herself and each other same-sex participant on each item. Possible responses for each item were: 1 (not at all like him/her), 2 (sort of like him/her) and 3 (a lot like him/her). Rather than employing a peer nomination technique, this rating scale approach, or what Bjorkqvist has called peer estimations, was used as it has the advantage of being a more sensitive and informative method, allowing for a rating of each participating child and a means of differentiating among children (Bjorkqvist,

2001; Rubin et al., 1998). Only same-, and not other-sex, ratings were obtained, as same-sex ratings have been found to provide a more valid assessment of social status variables (Bukowski & Newcomb, 1984; Coie, Dodge, & Coppotelli, 1982).

Aggression was assessed by combining items from a variety of measures used in previous research. As there were a great number of possible items, and a great deal of overlap in the items from the various measures, 12 items (3 items each) were chosen as representative of indirect and direct relational and physical aggression in the present study.

Relational Aggression

Three items tapped indirect relational aggression: (a) Someone who says bad things behind other people's backs[1,2,4], (b) Someone who tries to get others not to like a person[1,2,4], and (c) Someone who writes or passes around nasty notes about other kids[1,2]. The following 3 items tapped direct relational aggression: (a) Someone who purposely keeps others out of their group[1,3,4], (b) Someone who ignores someone (gives them the silent treatment) when they're mad at them[1,3], and (c) Someone who tells friends they'll stop liking them unless they do what they want[3]. Based on the results of a Confirmatory Factor Analysis (presented in Appendix J, Figure J1), direct and indirect relational aggression were not separate factors. The item "Someone who ignores someone (gives them the silent treatment) when they're mad at them" was removed from further analyses

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[1] = Osterman et al., 1994

[2] = Cairns et al., 1989

[3] = Crick & Grotpeter, 1995

[4] = Galen & Underwood, 1997

because it was involved in two of the five largest standardized residuals. In addition, its inter-correlation with the other relational aggression items was low in comparison with those of the other items. The remaining five items were combined into one overarching measure, termed Relational Aggression.

For peer ratings, Cronbach's alpha (standardized) for the combined measure was .91, which is similar to the internal consistencies for peer measures that have been found in other studies of relational and indirect aggression. Using peer nomination procedures, children's responses to relational and indirect aggression items have been found to be internally consistent across several independent samples (Cronbach's alpha = .83-.95; Crick & Grotpeter, 1995; Rys & Bear, 1997 for relational aggression; Cronbach's alpha = .92-.94 for indirect aggression; Osterman et al., 1994). A test-retest reliability of r = .82 has been reported for relational aggression over a 4-week interval (Crick, 1996). For self-ratings in the present study, a Cronbach's alpha (standardized) of .68 was found for relational aggression. Similarly low reliabilities for self-ratings were found by Osterman et al. on a measure of indirect aggression (Cronbach's alpha = .69-.84). Because of the low internal consistency of self-rated relational aggression, only peer-ratings were used in the analyses. Some researchers have in fact cautioned against the use of self-ratings in the measurement of indirect aggression, as children may be reluctant to admit to, or may be unaware that are engaging in it (Bjorkqvist, Lagerspetz, & Kaukiainen, 1992; Lagerspetz et al., 1988).

Physical Aggression

Three items tapped direct physical aggression: (a) Someone who hits other kids[1,3], (b) Someone who kicks other kids[1,3], and (c) Someone who pushes or shoves other kids[1].

Three items were developed for use in this study to measure indirect physical aggression: (a) Someone who throws something at a kid they don't like, then looks around as if nothing happened; (b) Someone who sticks out their foot to trip a kid, then acts innocent; (c) Someone who puts something on someone's chair so they will sit on it. Based on the results of a Confirmatory Factor Analysis (presented in Appendix J, Figure J1), direct and indirect physical aggression did not emerge as separate factors. Additionally, the item "Someone who puts something on someone's chair so they will sit on it" was removed from further analyses because it was involved in two of the six largest standardized residuals. In addition, its intercorrelations with the other physical aggression items was low in comparison with those of the other items. The remaining five items were combined into one overarching measure, termed Physical Aggression.

In the present study, Cronbach's alpha (standardized) for peer-ratings of physical aggression was .96. For self-ratings, an alpha of .74 was obtained. These internal consistency ratings are similar to those reported for measures of physical aggression (Osterman et al., 1994: .90-.92 for peer nominations, and .60-.78 for self-ratings) and overt aggression (Crick & Grotpeter, 1995; .94 for peer nominations).

The victimization items were designed to measure being the recipient of the aggressive acts under investigation.

Physical Victimization

The 3 items used to measure physical victimization were: (a) Someone who gets hit or kicked by other kids, (b) Someone who gets pushed or shoved by other kids, and (c) Someone who gets beaten up by other kids. The Cronbach's alphas (standardized) for peer-and self-ratings of physical victimization were .94 and .80 respectively.

Relational Victimization

The 3 items used to measure relational victimization were: (a) Someone who gets ignored or left out of things when someone is mad at them, (b) Someone who gets nasty notes written about them, and (c) Someone who other kids say mean things about behind their backs. The alphas for peer- and self-ratings of relational victimization were .83 and .66 respectively.

Because of the higher internal consistency of peer-ratings of victimization, as compared to self-ratings, only peer-ratings were used in the present study. There is support in the literature for employing peer- versus self-ratings of aggression and victimization. Peer-ratings have been found to be more predictive of psychosocial outcome variables (e.g., Sesma, Tout, & Casas, 1998). Moreover, they are believed to provide a better assessment of the participants' social reputation, and recommended for research such as this, in which the goal is to predict social status (Juvonen, Nishina, & Graham, 2001).

Dominance/Social Rank

In the existing literature on dominance among children, dominance is generally measured by asking children "Who is the toughest?". Toughness may be one measure of dominance, but it is surely not the only one, perhaps especially in the case of girls. Because no existing measure of dominance was found to be appropriate for the present study, the author developed a scale based on items that other researchers have used to assess dominance. Items were taken or modified from studies by Hawker & Boulton (1997), and Ray (1981), and generally reflect non-aggressive aspects of dominance. The items used to measure dominance were: (a) Someone who other kids usually follow, (b)

Someone who is often a leader, and (c) Someone who always gets their own way. The Cronbach's alpha (standardized) for this scale was .86 for peer ratings and .67 for self-ratings. Again, given the low internal consistency for self-ratings and the advantages of using peer-ratings for assessing socially-relevant variables, only peer-ratings of dominance were used in the analyses.

Parenting Style

A slightly modified, 26-item, version of the Parenting Style Questionnaire (Lamborn et al., 1991) was used to assess the perceived parenting style dimensions of acceptance/involvement and strictness/supervision, by the participants' parent(s) or guardian(s), to approximate Baumrind's (1971) and Maccoby and Martin's (1983) responsiveness and demandingness dimensions, respectively (see Appendix C). Children rated their mothers (or female guardian) and fathers (or male guardian) separately on 6 items designed to measure acceptance/involvement. In the questionnaire used in the present study, two items were added to this section of the acceptance/involvement scale: S/He encourages me to make my own decisions about certain things (one item for father and one for mother). They also rated their parents as a unit on 5 items of acceptance/involvement. Parents were also rated as a unit on the 9 items measuring strictness/supervision. Both scales were found by Lamborn et al. to have good internal consistency (alpha = .72 for acceptance/involvement, and .76 for strictness/supervision). In the same study, the two dimensions were found to be only modestly correlated (r = .34). Most of the questions were in a Likert-scale format. In the present study, acceptance/involvement and strictness/supervision were scored as continuous variables, with higher scores indicating higher acceptance/involvement and

strictness/supervision. The correlation between mother and father acceptance/involvement was .37 ($p < .001$). Cronbach's alpha (standardized) for mother and father acceptance/involvement were .78 and .82 respectively, and for overall parental acceptance/involvement Cronbach's alpha was .82. Cronbach's alpha for parental strictness/supervision was .72.

Self-Discrepancy

Self-discrepancies were measured using a modified version of the Selves questionnaire designed for use with adults (Higgins, Klein, & Strauman, 1985; see Appendix D). The original questionnaire required participants to list up to 10 traits or attributes that related to their actual, ideal and "ought" selves. For the purposes of this study, since it was of interest to know how participants felt about themselves in relation to gender-related dominance-related characteristics, the questionnaire was altered. In the present version of the questionnaire, participants were given a list of three male (athletic, tough, and a good leader) and three female (good-looking, fashionable, and popular) dominance-related characteristics that they rated on a scale of 1 (not at all like me) to 5 (exactly like me) as they pertained to: (a) their Actual Self, i.e., how much they felt they possessed each of the characteristics; (b) their Ideal Self, i.e, how much they would like to possess each of the characteristics; and (c) their Ought Self, i.e., how much they felt they should possess each of the characteristics. The characteristics used in the present questionnaire have been shown in previous research to be related to dominance in female and male adolescent groups (Coleman, 1961; Crockett et al., 1984; Savin-Williams, 1976; 1977; 1979; Weisfeld et al., 1983; Weisfeld et al., 1984). The self-discrepancy between actual and ideal self ratings (actual-ideal self-discrepancy) was obtained by

subtracting ideal from actual self ratings, and the self-discrepancy between actual and ought self ratings (actual-ought self-discrepancy) was obtained by subtracting ought from actual self ratings. Thus, the higher the self-discrepancy score, the more positive the chid feels about him or herself in relation to his or her ideal or ought self. Lower self-discrepancy scores are indicative of a more negative self-view in relation to one's ideal or ought self. The terms "positive" and "negative" will be used to describe self-discrepancies; these terms are meant to reflect feelings about the self, rather than whether the self-discrepancies are positive or negative in a statistical sense.

Cronbach's (standardized) alpha for Actual self - female dominance-related characteristics was .73 and for male dominance-related characteristics was .67. For ideal self, alphas were .80 and .58 for female and male items respectively. Alphas for ought self were .81 and .77 for female and male dominance-related characteristics respectively.

Self-Efficacy

Social Self-Efficacy

Social self-efficacy was measured using The Children's Self-Efficacy for Peer Interaction Scale (CSPI; Wheeler & Ladd, 1982), which uses 22 items to assess self-efficacy for conflict (12 items) and non-conflict (10 items) peer situations. Each item of this scale consists of a statement describing a social situation (e.g., Some kids are teasing your friend), which is followed by an incomplete statement designed to evaluate the child's perceived ability to carry out a particular action to deal with the situation (e.g., Telling them to stop is _____ for you.). In the present version of the scale (Appendix E), participants were required to fill in the blank by checking off a box indicating that the action would be Very Hard (1) to Very Easy (4) for them.

Participants' social self-efficacy scores were calculated using the mean of their responses. The scale was reversed so that higher scores indicated higher perceived self-efficacy. Internal consistency for this scale has been found by other researchers to be high (Cronbach's alpha = .85 for the total scale, .85 for conflict items, and .73 for non-conflict items; Wheeler & Ladd, 1982; Cronbach's alpha for the total scale = .84; Perry et al., 1986). In the present study, high internal consistency was found. Cronbach's alpha for total social self-efficacy was .91, for conflict items, alpha = .86, and for non-conflict items, alpha = .85.

Self-Efficacy for Aggression

Self-efficacy for aggression was measured using a modified version of the Self-Efficacy for Aggression subscale of Perry et al.'s (1986) Self-Efficacy Questionnaire. Three of the four direct physical aggression items used in the Perry et al. scale were employed in the present study. Cronbach's alpha for the total aggression self-efficacy subscale was reported by Perry et al. to be high (alpha = .86), though no internal consistency was reported for the physical aggression self-efficacy subscale. Self-efficacy for indirect physical aggression was not assessed. In the present study, a relational aggression self-efficacy subscale was added, as relational aggression self-efficacy was not assessed in the Perry et al. scale. Three items each were used to assess self-efficacy for direct and indirect relational aggression. Items were integrated into the CSPI questionnaire (see Appendix E) and scores were calculated in the same manner as with the social self-efficacy items above. Internal consistencies for the physical and relational aggression self-efficacy items in the present study were good (Cronbach's alpha = .76 for physical aggression and .72 for relational aggression self-efficacy).

Self-Reward and Peer Approval for Aggression

To assess self-reward and peer approval for using different styles of aggression, a modified 12-item version of the Expectations for Self-Reward and Expectations for Peer Approval subscales of The Outcome-Expectation Questionnaire was used (Perry et al., 1986; see Appendix F). The format of the items were based on that of the Perry et al., questionnaire, though the items themselves differed. The content of the items was based on that of the items used in the sociometric questionnaire assessing direct and indirect physical and relational aggression. The items which measured the aggressive acts that were removed based on the Confirmatory Factor Analyses for aggression were removed for all analyses. Participants were asked to imagine themselves involved in a particular social situation, in which they react in an aggressive manner (e.g., A kid that you don't like is wearing something that you think is really ugly. You write a note saying how bad the kid looks and pass it around). They were required to answer two questions pertaining to each vignette, the first assessing self-reward (e.g., Do you think this will make you feel good?) and peer approval (e.g., Do you think your friends will think it was a good thing to do?). Each answer was rated on a scale ranging from No (1) to Yes (5), and means were calculated. Each child received a mean rating for self-reward and peer approval, with higher scores indicating higher self-reward and perceived peer approval for aggression. Internal consistencies for self-reward and peer approval for aggression were good. Cronbach's alpha (standardized) for self-reward for physical aggression was .82. For self-reward for relational aggression, alpha = .75. For peer approval for physical aggression, alpha = .82. For peer approval for relational aggression, alpha = .74.

Social Importance

On a fourth section of the Self-Discrepancy questionnaire, participants rated the social importance of three female and three male dominance-related characteristics, i.e., how important it was that others in their class thought they possessed the characteristics, on a scale of 1 (not at all important) to 5 (extremely important) (items are in Appendix G). Though social importance was not included in the original Selves questionnaire, this variable was added as a measure of the extent to which children were inclined to "care" what their peers think of them. Alphas for social importance were .85 and .74 for female and male items respectively.

Procedure

Once permission was obtained from the Lakeshore School Board to allow participation of the schools in their jurisdiction, principals of elementary schools were contacted by the primary investigator to ask if they were interested in having their students participate in a study on bullying and victimization among Grade 5 and 6 students. The primary investigator and her advisor met with interested principals to discuss the details of the study. If they agreed to participate in the study, and had teachers who were also willing, they were asked to provide a list of the students in the participating classrooms. Then, the primary investigator met with the students in each classroom to explain the general purpose and requirements of the study, and a letter outlining the study, as well as a parental consent form, were given to each student to take home. Students were told that their participation was not obligatory. During the following weeks, the signed consent forms were collected, and a time was determined for the study to take place. Testing took place during two class periods (approximately 50

minutes each). Principals and teachers whose students were participating signed consent forms (Appendix H). Participating students were given a consent form to read and sign prior to beginning (Appendix I). They were told that they were helping with a study looking at how children of their age get along with one another at school. They were reminded that, even though they and their parents said they wanted to take part, they could decide not to at any point during the study. Questionnaires were handed out and students completed their questionnaires as items were read by the primary investigator or research assistants. After the second testing period, certificates for a "significant contribution to science" were given to each participating child. Before the end of the academic year, principals were asked if they would like the primary investigator to return to the classrooms to convey some preliminary results to the students. One principal agreed. Parents of participating children were sent a copy of preliminary results during the summer after the study took place. A more complete version of the results was mailed to the School Board and to each participating school.

RESULTS

For all analyses, standardized variables were used. With the exception of the scores used to perform the Confirmatory Factor Analyses, scores for all measures were standardized across classroom and sex. For the Confirmatory Factor Analyses, scores were standardized within classroom and sex, to control for any correlations between scores that resulted from mean differences between boys and girls.

Univariate Outliers

Univariate outliers were dealt with in the following manner: When there were scores that fell ± 3 SD from the mean, the effect of those scores was minimized by reducing their value to within ±.5 SD from the next score. Each score after that score was given a score of ± .01 from that score, in progression. The latter was done to preserve some of the original variation in the data.

Confirmatory Factor Analysis

Aggression

Confirmatory Factor Analyses (CFA) were used to assess two models regarding the factor structure of the forms of aggression (based on peer-ratings). It was initially hypothesized that a 4-Factor model, with indirect and direct physical and relational aggression as the factors, would provide the best fit, but this hypothesis was not supported (see Appendix J, Figure J1). Though the comparative fit index for this model was high (.985; $\chi 2 = 107.5$, df = 48), an examination of the correlations among the latent factors revealed a correlation of 1.000 between direct and indirect relational aggression, indicating that they represented one single factor, and were not separate factors. The correlation between the latent factors, direct and indirect physical aggression, was also

very high (.966), thus it was determined that it was not useful to consider direct and indirect physical aggression as two separate factors.

A second CFA carried out to assess a two-factor model, with one factor for physical aggression and another for relational aggression (see Appendix J, Figure J2). The latent variables were permitted to co-vary freely with one another. The items "Someone who ignores someone (gives them the silent treatment) when they're mad at them" and "Someone who puts something on someone's chair so they will sit on it" were removed from the analysis because they were involved in the largest standardized residuals. In addition, their intercorrelation with the other relational and physical aggression items respectively were low in comparison with those of the other items. This model provided a good explanation of the variables' relations to each other. The chi - square was 149.7 ($df = 53$, $p < .001$) and the comparative fit index was high (.976). The correlation between the two factors was .937, indicating that they are highly related, but separate factors. It was thus determined that this model provided a better fit to explain the different forms of aggression. In all subsequent analyses, then, direct relational aggression and indirect relational aggression were treated as one combined factor - relational aggression, and direct physical aggression and indirect physical aggression were treated as another factor - physical aggression.

Victimization

A CFA for victimization was carried out to determine the best model for different forms of peer-rated victimization (see Appendix J, Figure J3). The hypothesis that a 2-Factor (physical and relational) model would provide the best fit was supported. The comparative fit index was high (.991) for this model ($\chi 2 = 18.9$, $df = 8$). The correlation

between the two factors was .794. The latent variables were permitted to co-vary freely with one another. It was determined that this model provided a good explanation of the variables' relations to each other, thus in all subsequent analyses, two types of victimization - physical and relational - were used.

Descriptive Statistics

Preliminary Analysis of Sex and Grade Differences in Aggression and Victimization

Figure 1 presents the means and standard deviations for the two forms of aggression and two forms of victimization revealed in the Confirmatory Factor Analysis, separately by sex and grade of participants. Physical aggression and victimization were predicted to be higher among boys and relational aggression and victimization were predicted to be higher among girls. A series of simple factorial ANOVAs were run with physical and relational aggression and victimization as the dependent variables, and grade and sex as the independent factors. To explain significant interactions, one-way ANOVAs were run separately by grade and sex, with a probability value of .01 used for significance because of the number of analyses being run on the data.

Physical Aggression

A significant sex X grade interaction effect was found for physical aggression ($F = 5.98$ $p = .02$). Boys received significantly higher ratings than girls with respect to physical aggression in Grades 5 ($F = 56.07$, $p = .00$) and 6 ($F = 15.35$, $p = .00$), and girls in Grade 6 received higher peer ratings of physical aggression than girls in Grade 5 ($F = 6.16$, $p = .01$).

Relational Aggression

There was a significant sex X grade interaction ($F = 5.44$, $p = .02$), though when

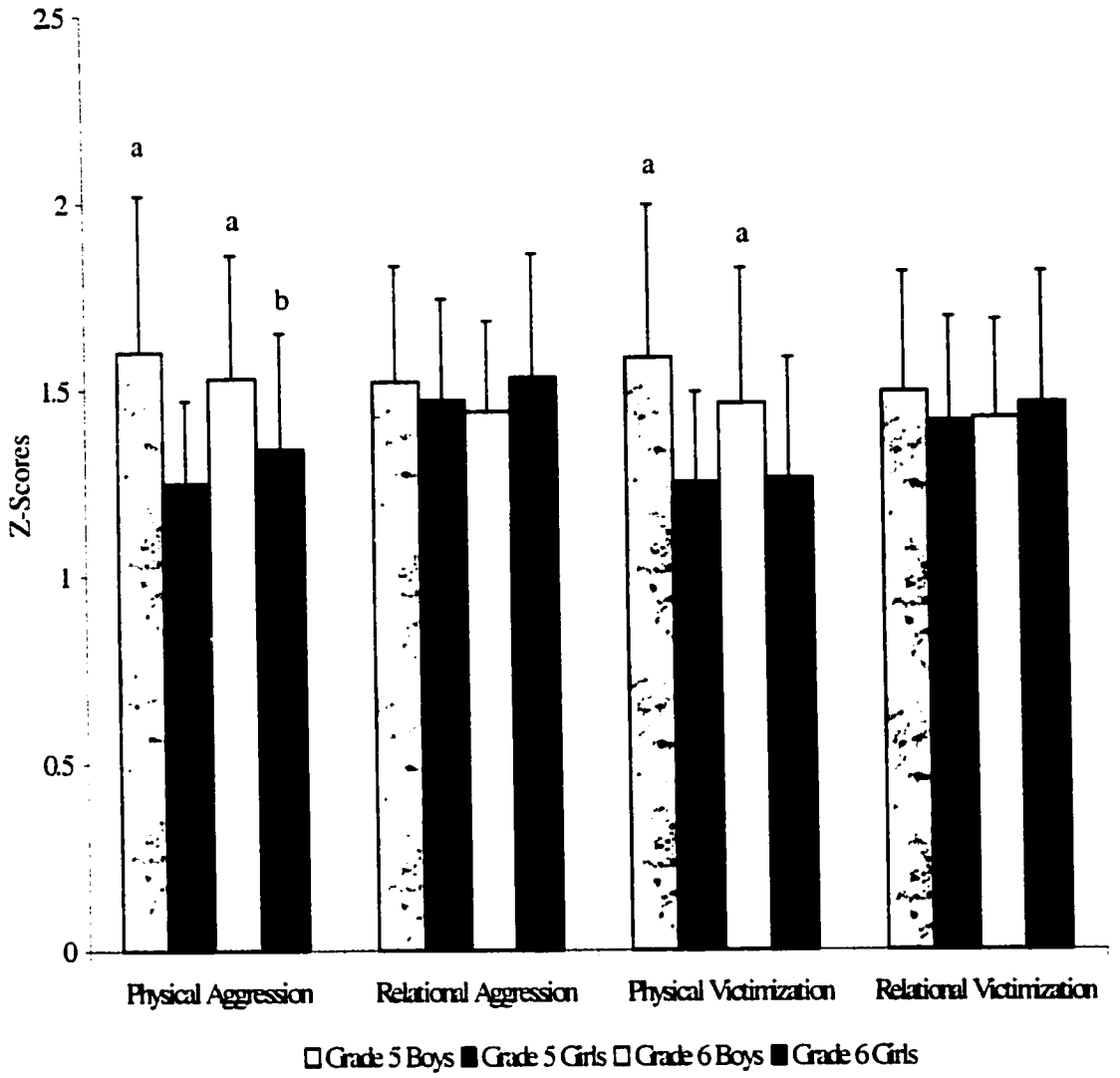

Figure 1. Mean peer ratings for physical and relational aggression and victimization by sex and grade.

[a] higher than same grade other sex
[b] higher than other grade same sex

analyses were run separately by sex and grade, with the level of significance set at .01, sex and grade differences were not retained.

Physical Victimization

There was a main effect of sex ($F = 57.67$, $p = .00$), with boys receiving significantly higher ratings than girls on physical victimization in both grades.

Relational Victimization

There were no sex or grade differences with respect to relational victimization.

Correlations among variables

Pearson correlation coefficients were computed for aggression and victimization variables, separately for boys and girls, and are presented in Table 1. For both boys and girls, the correlation between physical and relational aggression was strong. Reliabilities for aggression and victimization variables are presented along the diagonal in this table. Inter-correlations among predictor variables are presented in Appendix K.

Multiple Regression Analyses

A series of multiple regression analyses was carried out to examine the prediction of dominance from parenting factors, and the prediction of physical and relational aggression and victimization from variables belonging to four separate domains: dominance, self-discrepancy, self–efficacy, and social importance. The first domain, dominance, refers to children's peer-rated dominance status within the peer group; the second, self-discrepancy, involves children's feelings about themselves with respect to factors related to dominance; the third, self-efficacy, is related to children's perception of themselves as possessing the ability to carry out aggressive as well as prosocial acts, as well as their expectations for the outcome of aggressive acts; the fourth domain, social

Table 1.

Intercorrelations among aggression and victimization variables for boys and girls

	Physical Aggression	Relational Aggression	Physical Victimization	Relational Victimization
		Boys (n = 175)		
Physical Aggression	.95	.88	.18	.39
Relational Aggression		.90	.20	.49
Relational Victimization			.95	.76
Relational Victimization				.81
		Girls (n = 191)		
Physical Aggression	.94	.84	.59	.61
Relational Aggression		.92	.47	.61
Relational Victimization			.90	.77
Relational Victimization				.85

importance, refers to the amount of importance children place on whether their peers perceive them as possessing characteristics related to dominance. The dominance-related characteristics of interest in the latter domain were identical to those of interest in the second domain, self-discrepancy. Self-discrepancy and social importance were, nonetheless, viewed as separate domains, given that self-discrepancy is a "self-oriented" concept, whereas social importance concerns one's self only in relation to others, namely one's peers.

Each analysis was performed twice, the second set of analyses being more central to the hypotheses. In the second set of analyses, relational aggression was co-varied in regressions predicting physical aggression, and physical aggression was co-varied in regressions predicting relational aggression. The purpose of this set of analyses was to determine which variables could be interpreted as predictors that distinguish between relational and physical aggression. As well, in regressions predicting victimization, it was of interest to control for level of aggression, in order to make predictions about children who were non-aggressive victims. The initial set of analyses, which are presented in Appendix L, did not include these controls. The results of analyses predicting aggression in the latter set can be interpreted as predictive for children who exhibit primarily one type of aggression, but may also exhibit the other type, and for children who are victims of aggression but may also be aggressors themselves. The results of the initial set of analyses are detailed in the appendix, and are summarized below.

Summary of Multiple Regression Analyses Predicting Aggression and Victimization, without Controlling for Aggression

In this set of analyses, the hypotheses were identical to those in the second set, which are outlined below. The order of variable entry was identical to that in the second set, barring the inclusion of relational and physical aggression on the first step, and the corresponding interaction terms with sex on the last step. The results of these analyses demonstrated that both physical and relational aggression were predicted by higher dominance, higher actual self - male ratings (i.e., ratings one's self as being higher in leadership, athleticism, and toughness), and negative actual-ought discrepancy for female dominance-related characteristics (feeling one ought to be more fashionable, good-looking, and popular than one is). Physical, but not relational, aggression was predicted by sex (being a boy) and by higher self-efficacy for physical aggression. Relational, but not physical, aggression was predicted by age (being younger), higher self-efficacy for relational aggression, lower peer approval for relational aggression for boys, higher peer approval for relational aggression for girls, and higher social importance for female dominance-related characteristics. Both physical and relational victimization were predicted by negative actual-ideal discrepancy for male dominance-related characteristics (wishing to be a better leader, more athletic, and tougher than one is). Physical victimization was predicted by sex (being a boy), age (being younger), lower dominance for boys, lower self-reward for physical aggression for girls, and higher peer approval for physical aggression for girls. Relational victimization was predicted by lower dominance for both sexes, higher self-efficacy for relational aggression for both sexes, lower peer

approval for relational aggression for boys, and higher peer approval for relational aggression for girls.

Multiple Regression Analyses Predicting Aggression and Victimization, Controlling for Aggression

Parenting Style Predicting Dominance

It was hypothesized that children who perceived their parents as being low in supervision and either high or low in involvement (characteristic of permissive indulgent and permissive neglectful parenting styles, respectively) would be higher on peer-rated dominance. Those who perceived their parents as high in supervision but low in involvement (characteristic of authoritarian parenting styles) were expected to have lower dominance ratings, and those who perceived their parents as being high in supervision and high in involvement (characteristic of authoritative parenting style) were expected to fall in between. No hypotheses were made about sex differences. To determine if parental supervision and involvement were predictive of children's peer-rated dominance, a hierarchical multiple regression analysis was carried out (see Table 2). On the first step, child's sex and age were entered. On the second step, parental supervision and parental involvement were entered. On the third step, the parental involvement variable squared was entered to account for any curvilinear effects of that variable. In addition to testing the main effects of sex, age, parental supervision and parental involvement, interaction terms (supervision X involvement, sex X supervision, sex X involvement, sex X supervision X involvement) were entered on the following steps. The results of this analysis revealed that the first (sex, age), $\underline{R}^2 = .03$, $\underline{F}\ (2, 300) = 4.00$, $\underline{p} = .02$, and second (parental supervision and involvement), $\underline{R}^2\ \Delta = .02$, $\underline{F}\ \Delta\ (4, 298) = 3.12$, $\underline{p} = .05$, steps

Table 2.

Summary of Hierarchical Multiple Regression Analysis for Parenting Styles Predicting Dominance

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	.16	2.74**	.03*	.15	2.50**
	Age	-.02	-.37		-.01	-.14
2	Parental supervision	-.10	-1.78(*)	.02*	-.12	-2.00*
	Parental involvement	.12	2.11*		.11	1.64(*)
3	Parental involvement ^{2}	.02	.35	.00	-.01	-.12
4	Supervision X involvement	-.03	-.43	.00	.00	-.01
5	Sex X supervision	-.02	-.41	.01	-.01	-.23
	Sex X involvement	.12	2.09*		.13	2.23*
6	Sex X supervision X involvement	.12	1.98*	.01*	.12	1.98*

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

were significant. Finally, the last step (sex X supervision X involvement) was significant, $\underline{R}^2 \Delta = .01$, $\underline{F} \Delta (9, 293) = 3.92$, $\underline{p} = .05$. The regression lines for boys and girls were graphed in order to explain this interaction (see Figure 2).

In summary, as seen in the figure, when girls perceived their parents as being high in involvement, the level of parental supervision did not have an influence; the dominance ratings of girls with high involvement parents were high regardless of parental supervision. For girls with low involvement parents, parental supervision was negatively predictive of dominance ratings. For boys with high involvement parents, parental supervision was negatively related to dominance ratings, that is, dominance was lower when parental supervision was high. When parents were low in involvement, for boys, supervision did not influence dominance ratings.

Dominance Predicting Aggression and Victimization

It was expected that children who had higher dominance ratings would be rated as being higher in aggression and lower in victimization, whereas those who had lower dominance ratings would be rated as higher in victimization and lower in aggression. To determine the predictive value of dominance on aggression and victimization ratings, four multiple regression analyses were carried out. In each analysis, aggression (relational aggression for regressions predicting physical aggression, physical aggression for regressions predicting relational aggression, and both physical and relational aggression for regressions predicting victimization) was entered on the first step, child's sex and age were entered on the second step, dominance ratings were entered on the third step, and interaction terms were entered on the third step.

Physical aggression. In this analysis, the first (relational aggression), $\underline{R}^2 = .59$, $\underline{F}$

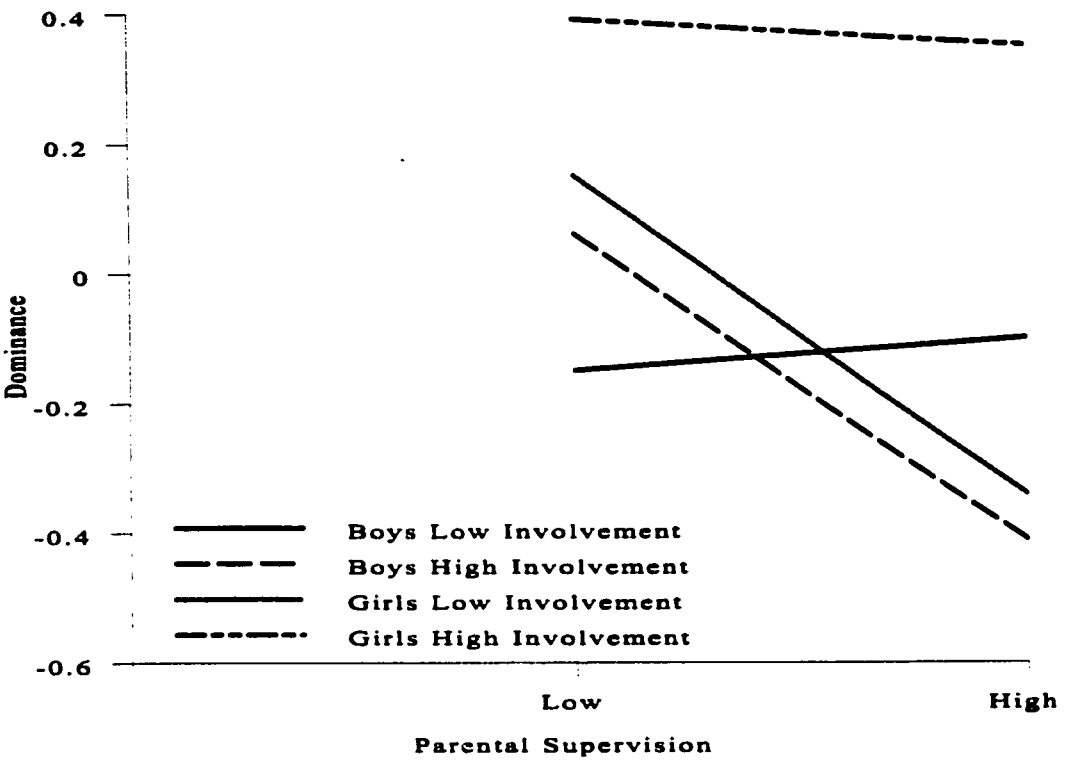

Figure 2. Interaction between parental supervision and involvement in the prediction of dominance.

(1, 363) = 518.99, p = .00, second (sex, age), R^2 Δ= .17, F Δ (3, 361) = 124.08, p = .00, and fourth (sex X dominance, sex X relational aggression), R^2 Δ= .04, F Δ (6, 358) = 31.34, p = .00, steps were significant (see Table 3). At the final step, both interaction effects were significant. To explain the significant interaction effects, regression lines for boys and girls were graphed. As shown in Figure 3, physical aggression ratings were higher for boys than for girls. For girls, dominance was negatively predictive of physical aggression ratings, that is, girls who were more physically aggressive had lower dominance ratings. For boys, dominance was not predictive of physical aggression. As shown in Figure 4, relational aggression ratings were predictive of physical aggression ratings for both boys and girls. The regression line was steeper for boys compared to girls, and physical aggression ratings were higher for boys than for girls, regardless of relational aggression.

Relational aggression. In the regression predicting relational aggression, the first (physical aggression), R^2 = .59, F (1, 363) = 518.99, p = .00, second (sex, age), R^2 Δ= .13, F Δ (3, 361) = 78.86, p = .00, third (dominance), R^2 Δ= .02, F Δ (4, 360) = 27.10, p = .00, and fourth (sex X dominance, sex X physical aggression), R^2 Δ= .03, F Δ (6, 358) = 23.77, p = .00, steps were significant (see Table 4). At the final step, age was a significant predictor; specifically, being younger was predictive of relational aggression. As well, both interaction effects were significant. To explain the significant interaction effects, regression lines for boys and girls were graphed. As shown in Figure 5, relational aggression ratings were higher for girls than for boys. For girls, dominance was directly predictive of relational aggression ratings, whereas for boys, dominance was not significantly predictive of relational aggression. As shown in Figure 6, physical

Table 3.

Summary of Hierarchical Multiple Regression Analysis for Dominance and Relational Aggression Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Relational aggression	.77	22.78***	.59***	.80	29.49***
2	Sex	-.40	-15.37***	.17***	-.40	-16.35***
	Age	-.05	1.87(*)		.06	2.61**
3	Dominance	-.01	-.22	.00	-.01	-.42
4	Sex X dominance	-.07	-2.72**	.04***	-.07	-2.72***
	Sex X relational aggression	-.15	-5.46***		-.15	-5.46***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

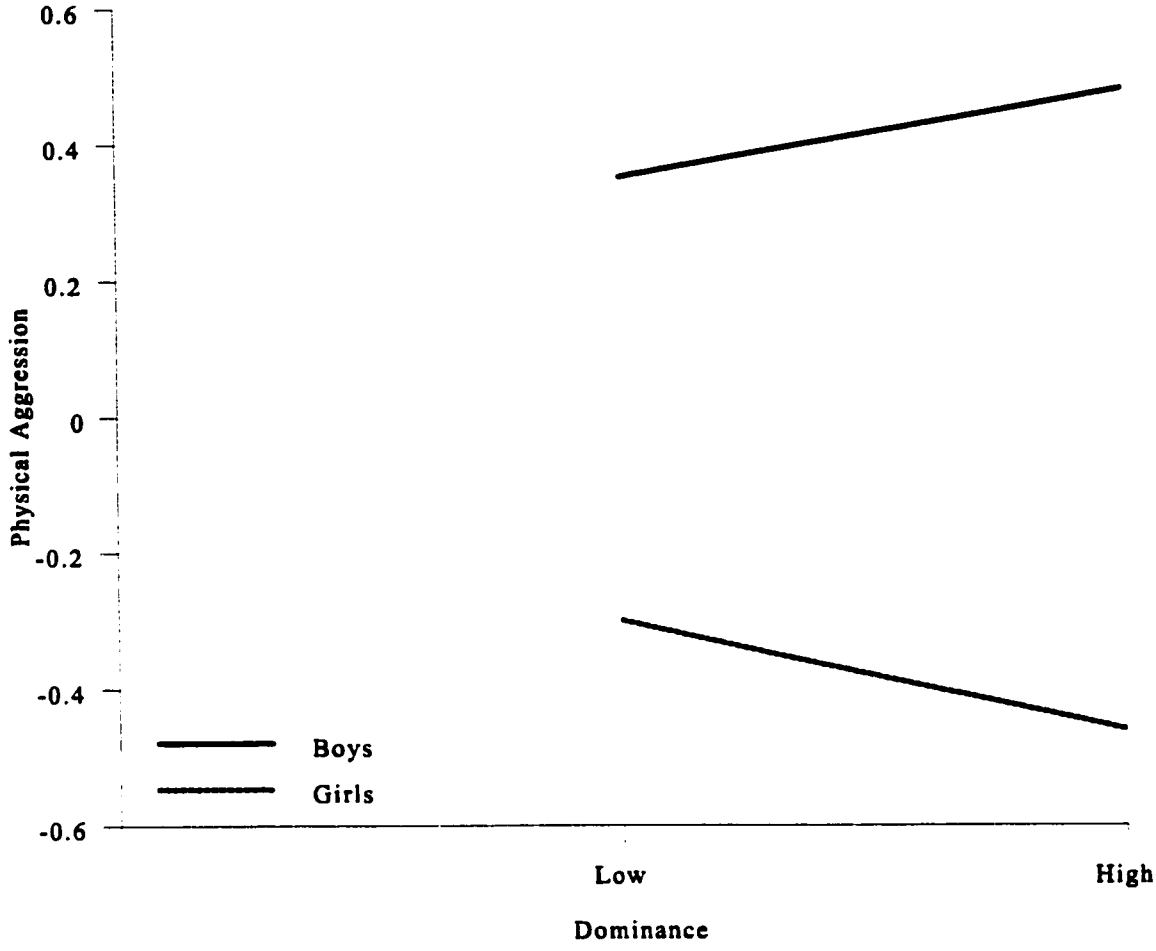

Figure 3. Interaction between sex and dominance in the prediction of physical aggression, controlling for relational aggression.

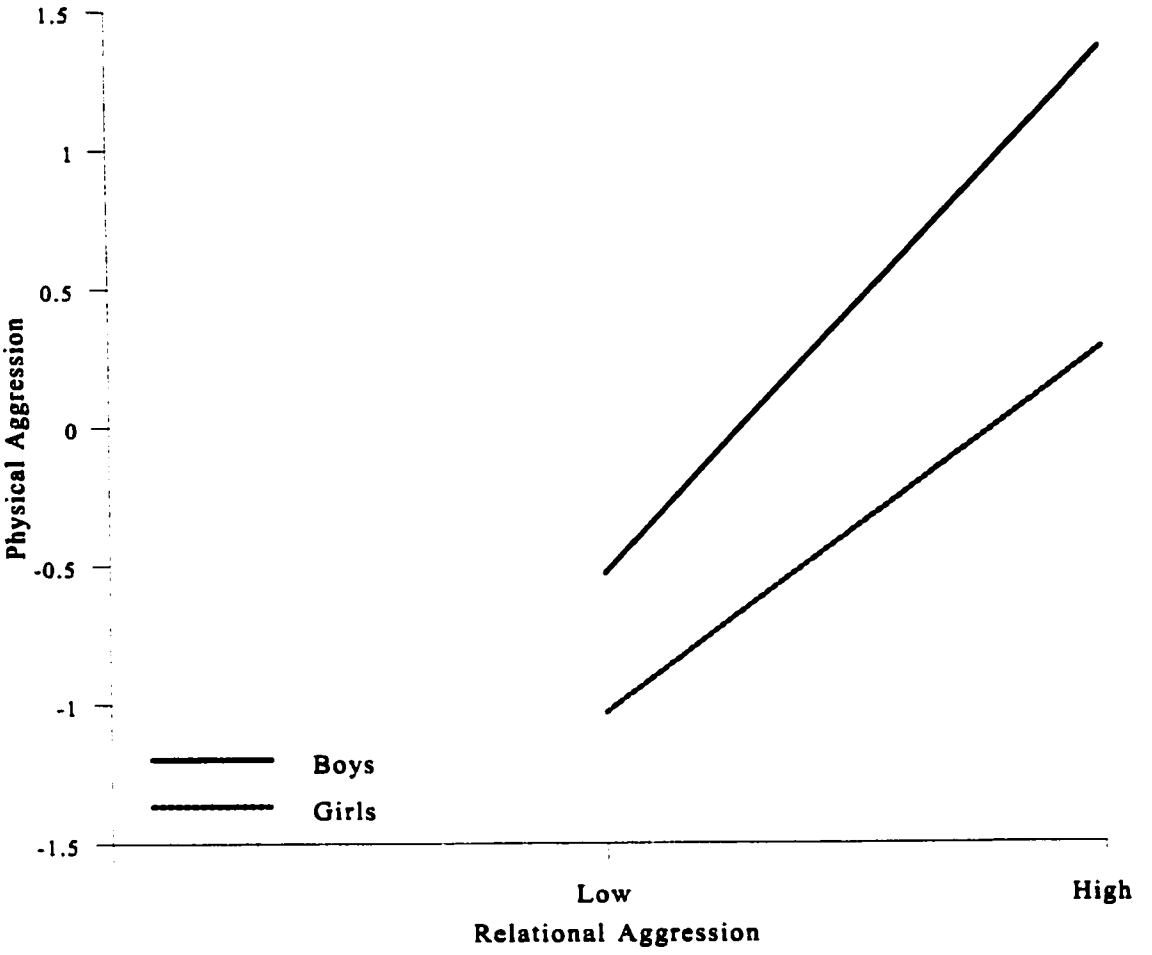

Figure 4. Interaction between sex and relational aggression in the prediction of physical aggression.

Table 4.

Summary of Hierarchical Multiple Regression Analysis for Dominance and Physical Aggression Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.77	22.78***	.59***	.91	29.13***
2	Sex	.37	12.08***	.13***	.35	11.90***
	Age	-.06	-2.27*		-.07	-2.63**
3	Dominance	.15	5.21***	.02***	.15	5.48***
4	Sex X dominance	.08	3.00**	.03***	.08	3.00**
	Sex X physical aggression	.14	4.76***		.14	4.76***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

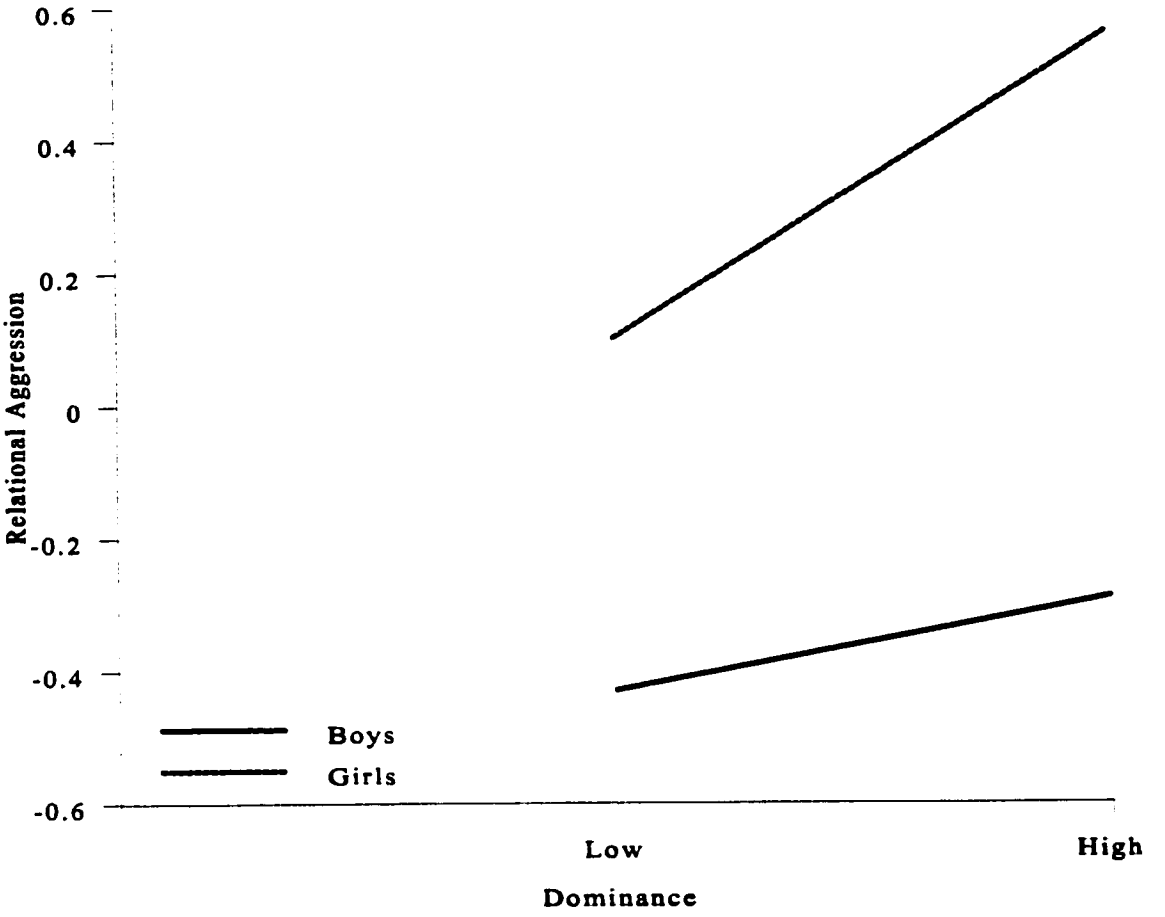

Figure 5. Interaction between sex and dominance in the prediction of relational aggression, controlling for physical aggression.

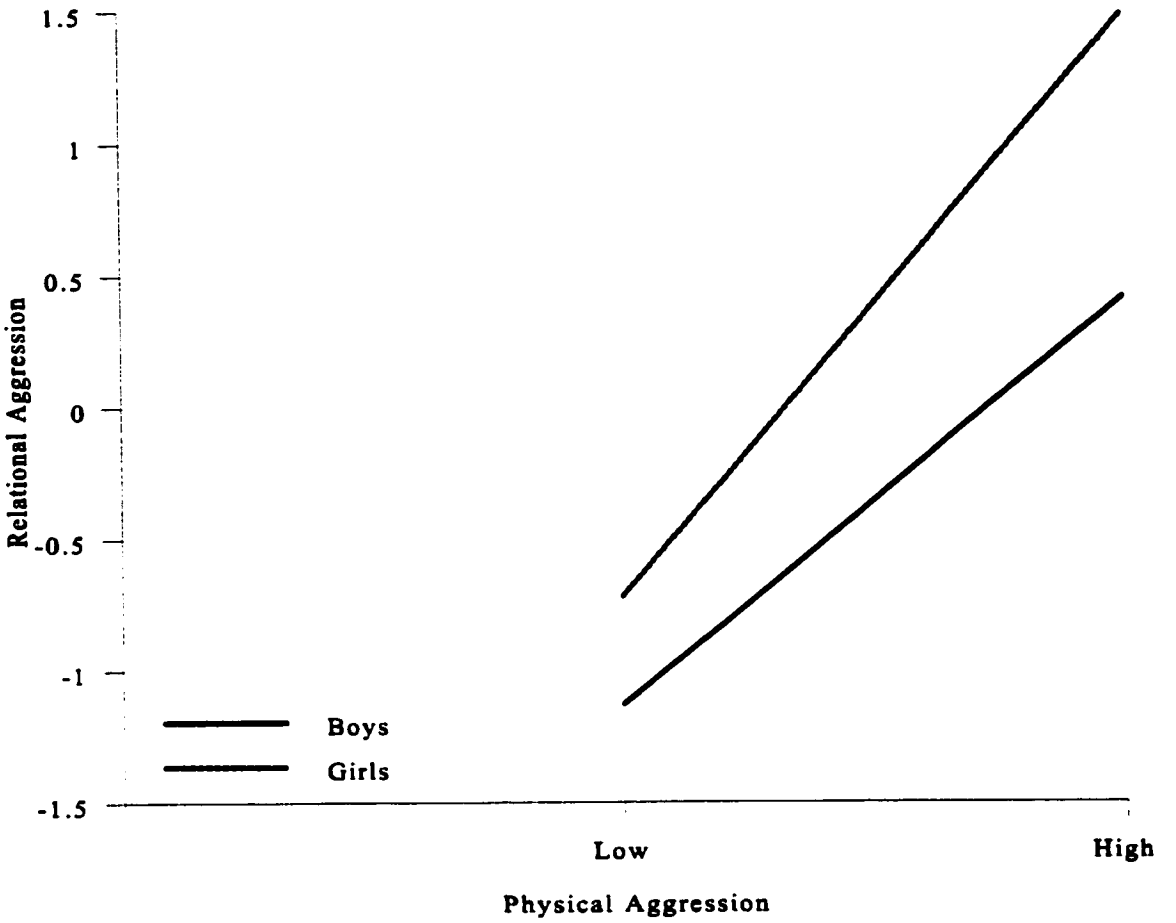

Figure 6. Interaction between sex and physical aggression in the prediction of relational aggression.

aggression ratings were strongly predictive of relational aggression ratings for both boys and girls. Relational aggression ratings were higher for girls than for boys, regardless of physical aggression.

Physical victimization. In the regression predicting physical victimization, the first (physical aggression, relational aggression), $R^2 = .19$, F (2, 362) = 42.25, $p = .00$, second (sex, age), $R^2 \Delta = .06$, $F \Delta$ (4, 360) = 13.51, $p = .00$, third (dominance), $R^2 \Delta = .17$, $F \Delta$ (5, 359) = 101.24, $p = .00$, and fourth (sex X dominance, sex X physical aggression, sex X relational aggression), $R^2 \Delta = .04$, $F \Delta$ (8, 356) = 8.37, $p = .00$, steps were significant (see Table 5). At the final step, there was a significant main effect for relational aggression; specifically, higher relational aggression was predictive of physical victimization. There was also a significant main effect of age, with younger children being rated as more physically victimized. As well, there were significant sex X dominance and sex X physical aggression interaction effects. To explain the significant interaction effects, the regression lines for boys and girls were graphed. As shown in Figure 7, dominance ratings were negatively predictive of physical victimization ratings for both sexes, that is, lower dominance was associated with higher physical victimization. The regression line was steeper for boys than for girls, indicating a stronger effect. As shown in Figure 8, physical aggression was strongly predictive of physical victimization ratings for girls. For boys, physical aggression was not significantly predictive of physical victimization ratings.

Relational victimization. In this analysis, the first (physical aggression, relational aggression), $R^2 = .31$, F (2, 362) = 82.20, $p = .00$, and third (dominance), $R^2 \Delta = .18$, $F \Delta$ (5, 359) = 128.95, $p = .00$, steps were significant upon entry (see Table 6). At the final

Table 5.

Summary of Hierarchical Multiple Regression Analysis for Dominance Predicting Physical Victimization, Controlling for Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		B	t	ΔR^2	β	t
1	Physical aggression	.50	6.75***	.19***	.41	4.61***
	Relational aggression	-.09	-1.17		.20	2.48**
2	Sex	-.29	-4.87***	.06***	-.17	-3.25***
	Age	-.09	-1.90(*)		-.11	-2.72**
3	Dominance	-.46	-10.06***	.17***	-.43	-9.69***
4	Sex X dominance	.13	2.96**	.04***	.13	2.96**
	Sex X physical aggression	.21	2.61**		.21	2.61**
	Sex X relational aggression	-.09	-1.09		-.09	-1.09

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

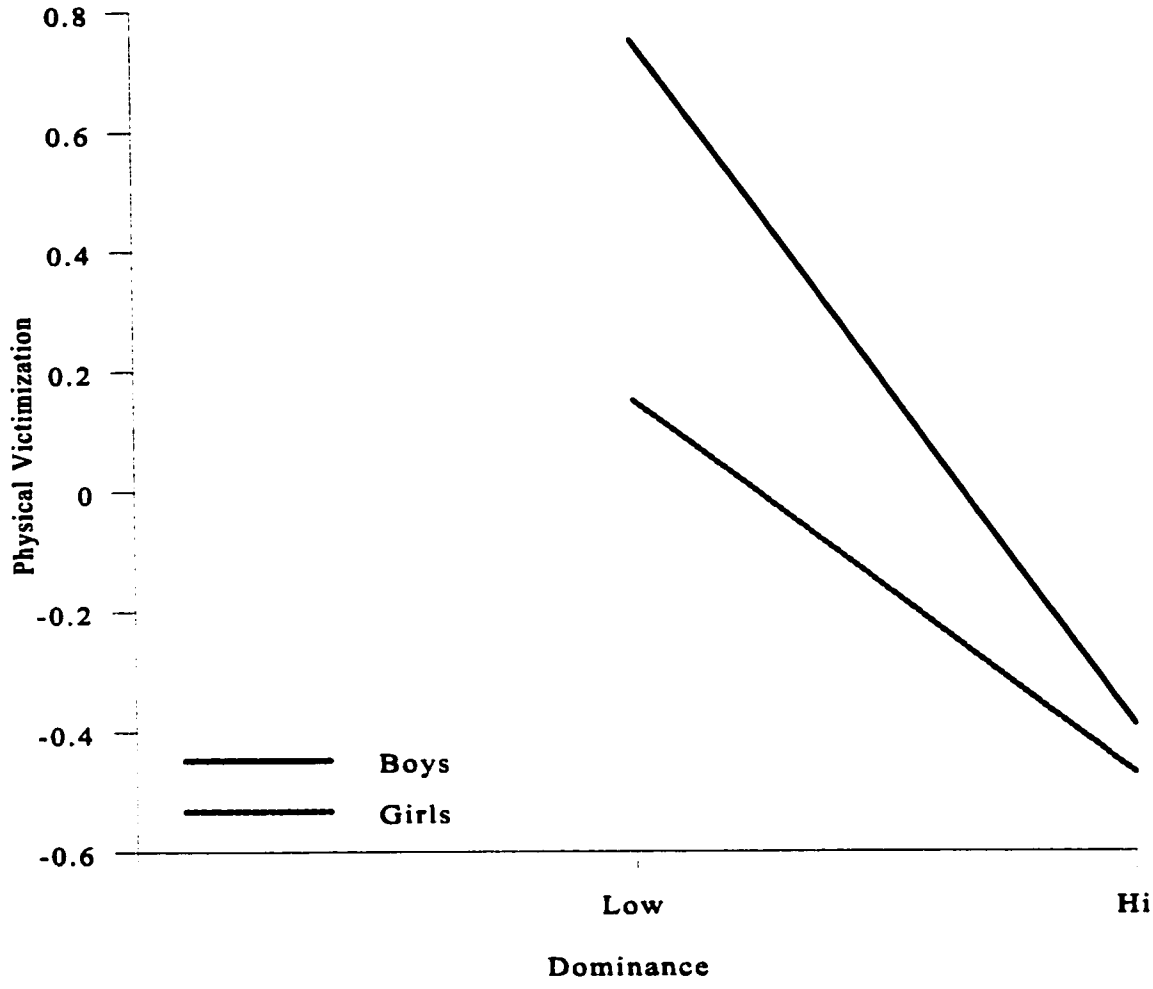

Figure 7. Interaction between sex and dominance in the prediction of physical victimization, controlling for aggression

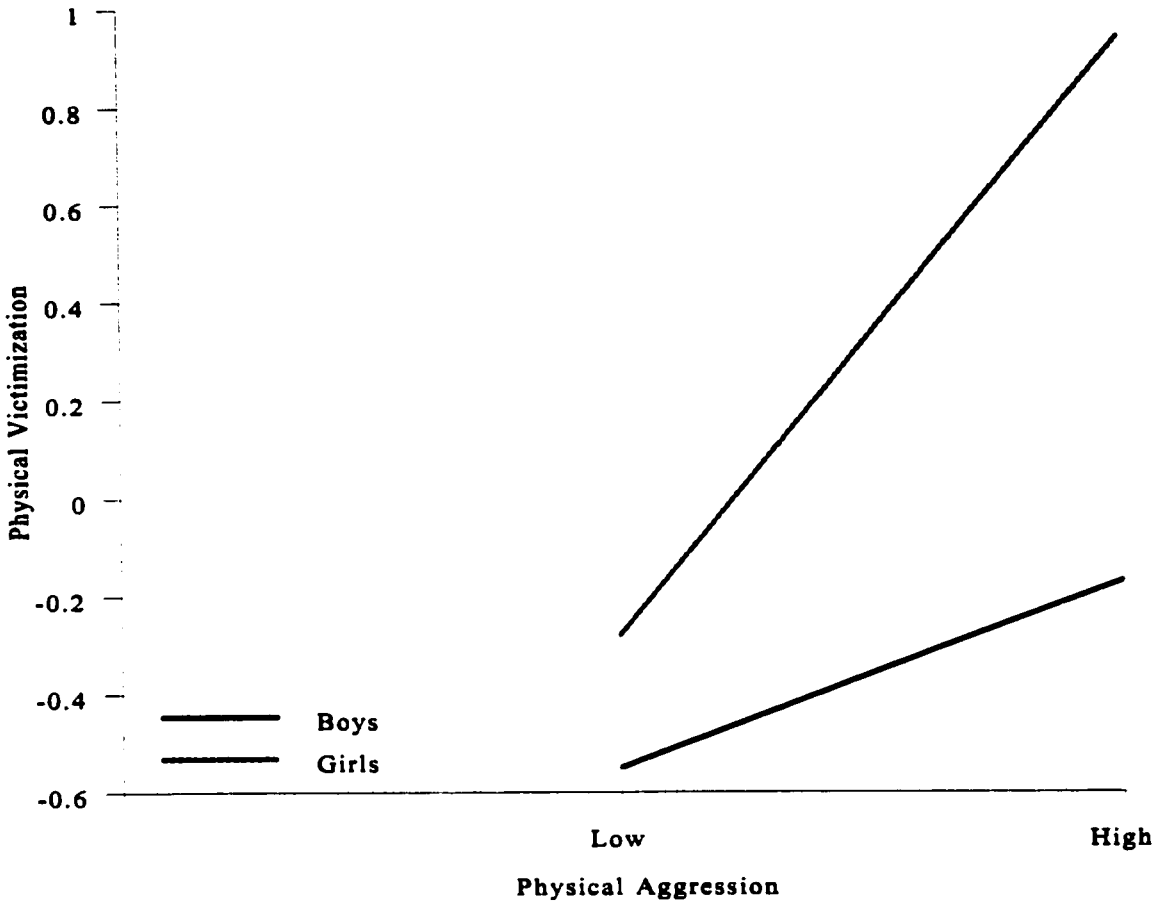

Figure 8. Interaction between sex and physical aggression in the prediction of physical victimization, controlling for aggression.

Table 6.

Summary of Hierarchical Multiple Regression Analysis for Dominance and Physical and Relational Aggression Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.08	1.16	.31***	.14	1.65(*)
	Relational aggression	.50	7.31***		.67	8.71***
2	Sex	-.03	-.55	.00	.05	1.09
	Age	-.02	-.52		-.04	-.98
3	Dominance	-.48	-11.36***	.18***	-.47	-10.94***
4	Sex X dominance	.03	.76	.01(*)	.03	.76
	Sex X physical aggression	.15	1.89(*)		.15	1.89(*)
	Sex X relational aggression	-.06	-.77		-.06	-.77

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

step of the regression, relational aggression was positively predictive of, and dominance was negatively predictive of relational victimization. That is, for both boys and girls, higher relational aggression and lower dominance predicted relational victimization.

Self Variables Predicting Aggression and Victimization

Multiple regression analyses were carried out to determine if self-discrepancies related to dominance-related characteristics were predictive of children's aggression and victimization. For each regression, aggression (relational aggression for regressions predicting physical aggression, physical aggression for regressions predicting relational aggression, and both physical and relational aggression for regressions predicting victimization) was entered on the first step, child's sex and age were entered on the second step; actual self for male dominance-related characteristics (i.e., tough, athletic, a good leader; hereafter termed actual self - male) and for female dominance-related characteristics (i.e., good-looking, fashionable, popular; actual self-female) were entered on the third and fourth step respectively, as control variables; self-discrepancies for male dominance-related characteristics (self-discrepancies - male) were entered on the fifth step; and self-discrepancies for female dominance-related characteristics (self-discrepancies - female) were entered on the sixth step. Two-way interaction terms with sex were entered on the following steps. It was predicted that negative actual-ought discrepancies would be predictive of aggression. In describing self-discrepancies, the terms "positive" and "negative" are used; these terms are meant to reflect feelings about the self, rather than whether the self-discrepancies are positive or negative in a statistical sense.

Specifically, negative actual-ought discrepancies for male dominance-related characteristics were expected to be predictive of physical aggression, and negative actual-ought discrepancies for female dominance-related characteristics were expected to be predictive of relational aggression. Negative actual-ideal discrepancies were expected to be predictive of higher victimization scores. Specifically, negative actual-ideal discrepancies for male dominance-related characteristics were expected to be predictive of higher physical victimization and negative actual-ideal discrepancies for female dominance-related characteristics were expected to be predictive of higher relational victimization.

Physical aggression. In the regression predicting physical aggression, the first (relational aggression), $R^2 = .64$, $F\ (1, 202) = 355.94$, $p = .00$, second (sex, age), $R^2\ \Delta = .14$, $F\ \Delta\ (3, 200) = 59.52$, $p = .00$, seventh (sex X actual self - male, sex X actual self-female), $R^2\ \Delta = .02$, $F\ \Delta\ (11, 192) = 8.56$, $p = .00$, and ninth (sex X relational aggression, sex X actual-ideal discrepancy - female, sex X actual-ought discrepancy - female), $R^2\ \Delta = .02$, $F\ \Delta\ (16, 187) = 8.35$, $p = .00$, steps were significant (see Table 7). At the final step, the only effect to retain significance was the sex X relational aggression interaction. To explain this interaction, the regression lines for boys and girls were graphed. As shown in Figure 9, for both sexes, relational aggression ratings were predictive of physical aggression ratings. The regression line for boys was steeper compared to that of girls, indicating a stronger effect for boys.

Relational aggression. In this regression, the first (physical aggression), $R^2\ \Delta = .64$, $F\ \Delta\ (1, 202) = 355.94$, $p = .00$, second (sex, age), $R^2\ \Delta = .09$, $F\ \Delta\ (3, 200) = 31.82$, $p = .00$, seventh (sex X actual self - male, sex X actual self- female), $R^2\ \Delta = .02$, $F\ \Delta\ (11,$

Table 7.

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables and Relational Aggression Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Relational aggression	.80	18.87***	.64***	.74	21.53***
2	Sex	-.37	-10.77***	.14***	-.35	-9.32***
	Age	.01	.34		.01	.32
3	Actual self - male	.02	.51	.00	.12	1.93(*)
4	Actual Self- female	-.08	-1.87(*)	.00(*)	-.09	-1.68(*)
5	Actual-ideal discrepancy - male	.00	-.03	.00	-.03	-.43
	Actual-ought discrepancy - male	-.01	-.25		.02	.27
6	Actual-ideal discrepancy - female	.00	.01	.00	.01	.26
	Actual-ought discrepancy - female	-.03	-.53		-.05	-.85
7	Sex X actual self - female	.02	.52	.02***	.00	-.07
	Sex X actual self- male	-.15	-3.44***		-.08	-1.30
8	Sex X actual-ideal discrepancy - male	.02	.39	.00	.02	.31
	Sex X actual-ought discrepancy - male	.01	.13		-.05	-.77
9	Sex X actual-ideal discrepancy - female	-.03	-.53	.02***	-.03	-.53

Sex X actual-ought discrepancy - female	.06	.89	.06	.89
Sex X relational aggression	-.16	-4.67***	-.16	-4.67***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

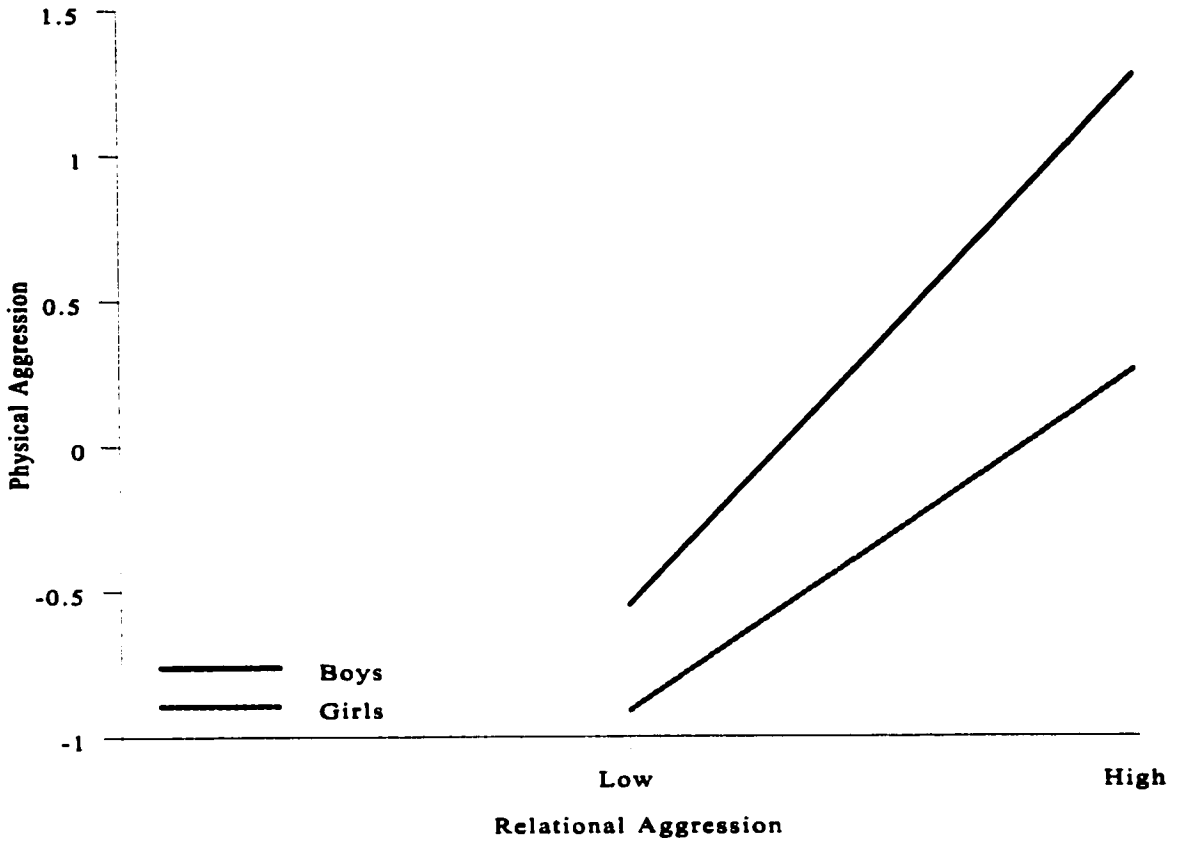

Figure 9. Interaction between sex and relational aggression in the prediction of physical aggression.

192) = 7.57, p = .001, and ninth (sex X physical aggression, sex X actual-ideal discrepancy - female, sex X actual-ought discrepancy - female), R^2 Δ= .01, F Δ (16, 187) = 3.54, p = .01, steps were significant (see Table 8). At the final step, the only effect to retain significance was the sex X physical aggression interaction effect. To explain this interaction, the regression lines for boys and girls were graphed. As shown in Figure 10, for both sexes, physical aggression ratings were predictive of relational aggression, and this effect was stronger for girls than for boys, as indicated by the steeper regression line for girls. Relational aggression ratings were higher for girls compared to boys.

Physical victimization. In the regression predicting physical victimization, the first (physical aggression, relational aggression), R^2 = .21, F (2, 201) = 26.36, p = .00, second (sex, age), R^2 Δ = .07, F Δ (4, 199) = 9.48, p = .00, third (actual self - male), R^2 Δ= .05, F Δ (5, 198) = 14.05, p = .00, seventh (sex X actual self - male, sex X actual self-female), R^2 Δ= .03, F Δ (12, 191) = 3.93, p = .02, and tenth (sex X physical aggression, sex X relational aggression), R^2 Δ= .05, F Δ (18, 185) = 8.65, p = .00, steps were significant (see Table 9). At the final step, there were significant sex X actual- ideal discrepancy - male, sex X physical aggression, and sex X relational aggression interaction effects. To explain these interaction effects, the regression lines for boys and girls were graphed. As shown in Figure 11, for boys, negative actual-ideal discrepancies for male dominance-related characteristics were predictive of higher physical victimization scores. For girls, this discrepancy was not predictive of physical victimization scores. As shown in Figure 12, relational aggression was directly predictive of physical victimization scores for girls, and negatively predictive for boys. With respect to physical aggression as a predictor of physical victimization, there was a

Table 8.

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables and Physical Aggression Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.80	18.87***	.64***	.99	20.59***
2	Sex	.32	7.71***	.09***	.35	7.47***
	Age	-.04	-.97		-.03	-.76
3	Actual self - male	.07	1.87	.01(*)	.01	.12
4	Actual self- female	.05	.95	.00	.11	1.79(*)
5	Actual-ideal discrepancy - male	-.05	-.88	.00	-.03	-.43
	Actual-ought discrepancy - male	-.01	-.29		.04	.60
6	Actual-ideal discrepancy - female	.00	-.07	.00	-.02	-.25
	Actual-ought discrepancy - female	-.06	-.91		-.05	-.64
7	Sex X actual self - female	-.02	-.51	.02***	.02	.40
	Sex X actual self- male	.16	3.26***		.11	1.54
8	Sex X actual-ideal discrepancy - male	-.05	-.89	.00	-.04	-.57
	Sex X actual-ought discrepancy - male	.01	.28		.06	.86
9	Sex X actual-ideal discrepancy - female	.01	.09	.01*	.01	.09

Sex X actual-ought discrepancy - female	-.05	-.76	-.05	-.76
Sex X physical aggression	.13	2.91**	.13	2.91**

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

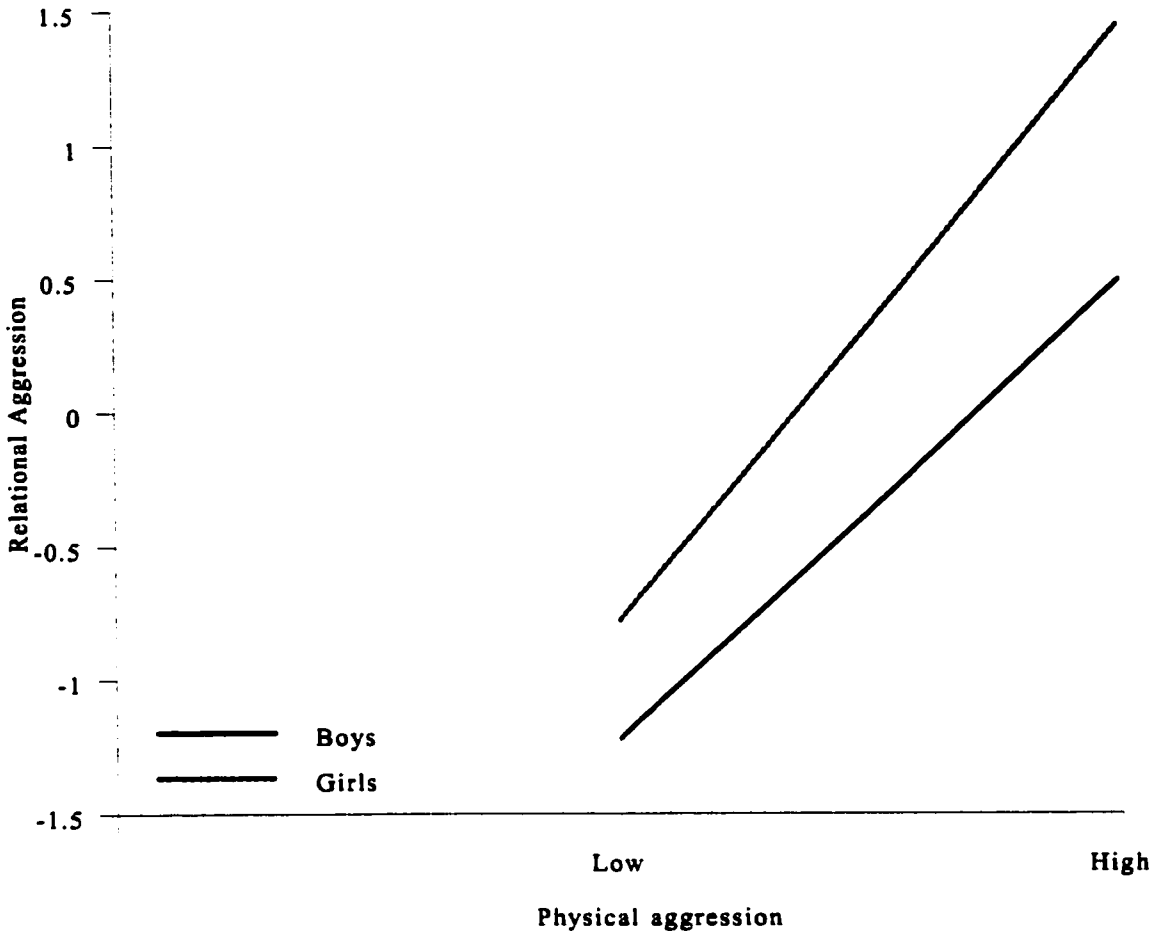

Figure 10. Interaction between sex and physical aggression in the prediction of relational aggression

Table 9.

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables and Physical and Relational Aggression Predicting Physical Victimization.

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.51	4.91***	.21***	.46	3.34***
	Relational aggression	-.07	-.71		.09	.83
2	Sex	-.33	-4.34***	.07***	-.17	-2.06*
	Age	-.05	-.77		-.07	-1.25
3	Actual self - male	-.23	-3.75***	.05***	-.05	-.45
4	Actual self- female	-.07	-.95	.00	-.02	-.19
5	Actual-ideal discrepancy - male	-.14	-1.61	.01	-.23	-2.10*
	Actual-ought discrepancy - male	-.05	-.70		.00	.04
6	Actual-ideal discrepancy - female	-.02	-.25	.00	.05	.47
	Actual-ought discrepancy - female	.01	.10		-.06	-.52
7	Sex X actual self - female	-.06	-.73	.03*	-.06	-.61
	Sex X actual self- male	.20	2.54**		.06	.57
8	Sex X actual-ideal discrepancy - male	.18	2.04*	.01	.23	2.05*
	Sex X actual-ought discrepancy - male	-.04	-.54		-.14	-1.25
9	Sex X actual-ideal discrepancy - female	-.02	-.20	.00	-.02	-.23

	Sex X actual-ought discrepancy - female	.12	1.04		.15	1.37
10	Sex X physical aggression	.52	4.10***	.05***	.52	4.10***
	Sex X relational aggression	-.35	-2.98**		-.35	-2.98**

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

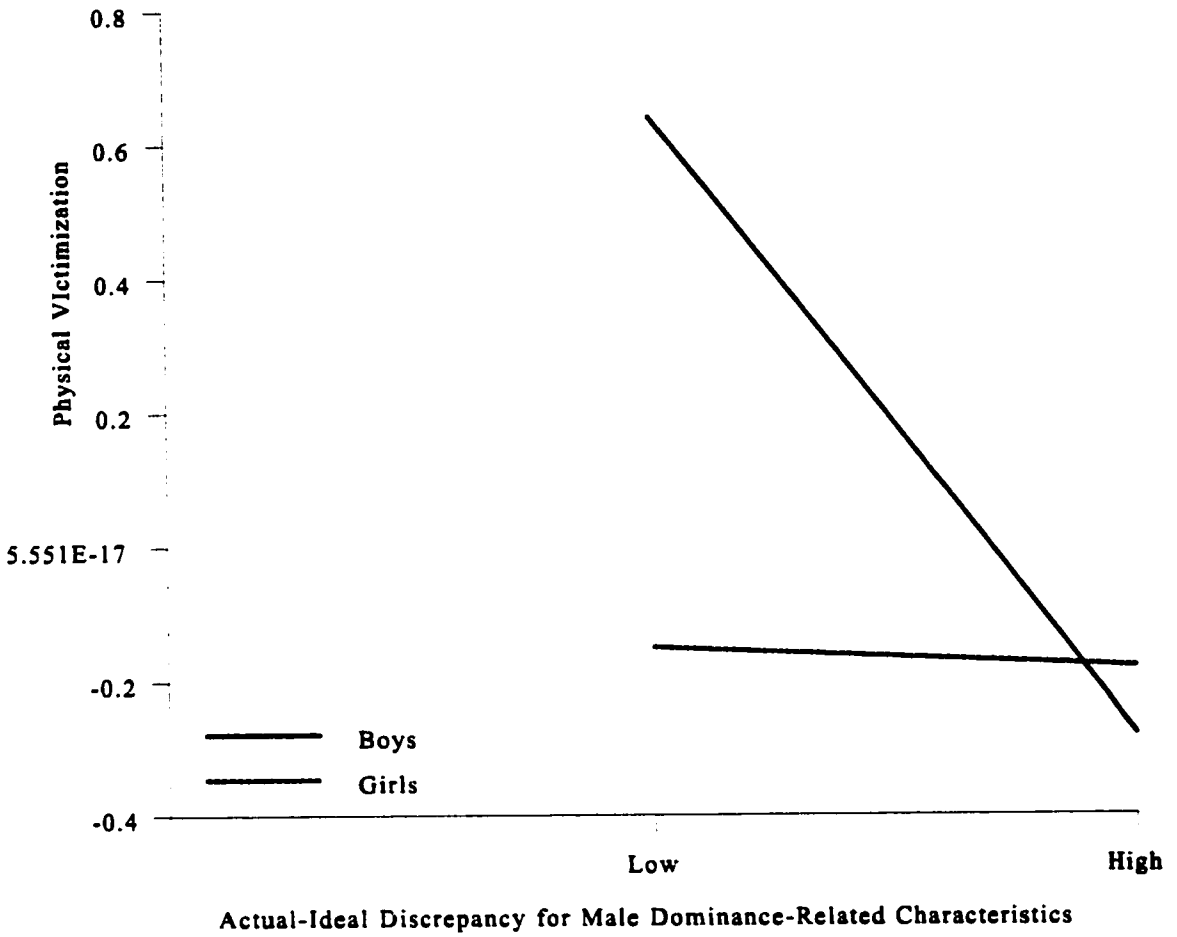

Figure 11. Interaction between sex and actual-ideal discrepancy for male dominance-related characteristics in the prediction of physical victimization, controlling for aggression.

Note: Actual-ideal discrepancy was calculated by subtracting ideal from actual ratings. Thus, in the graph, "low" represents a more negative discrepancy, and "high" represents a more positive discrepancy between ratings of one's actual self and one's ideal self. The terms "negative" and "positive" are used to describe feelings about the self, rather than whether the self-discrepancies are positive or negative in a statistical sense.

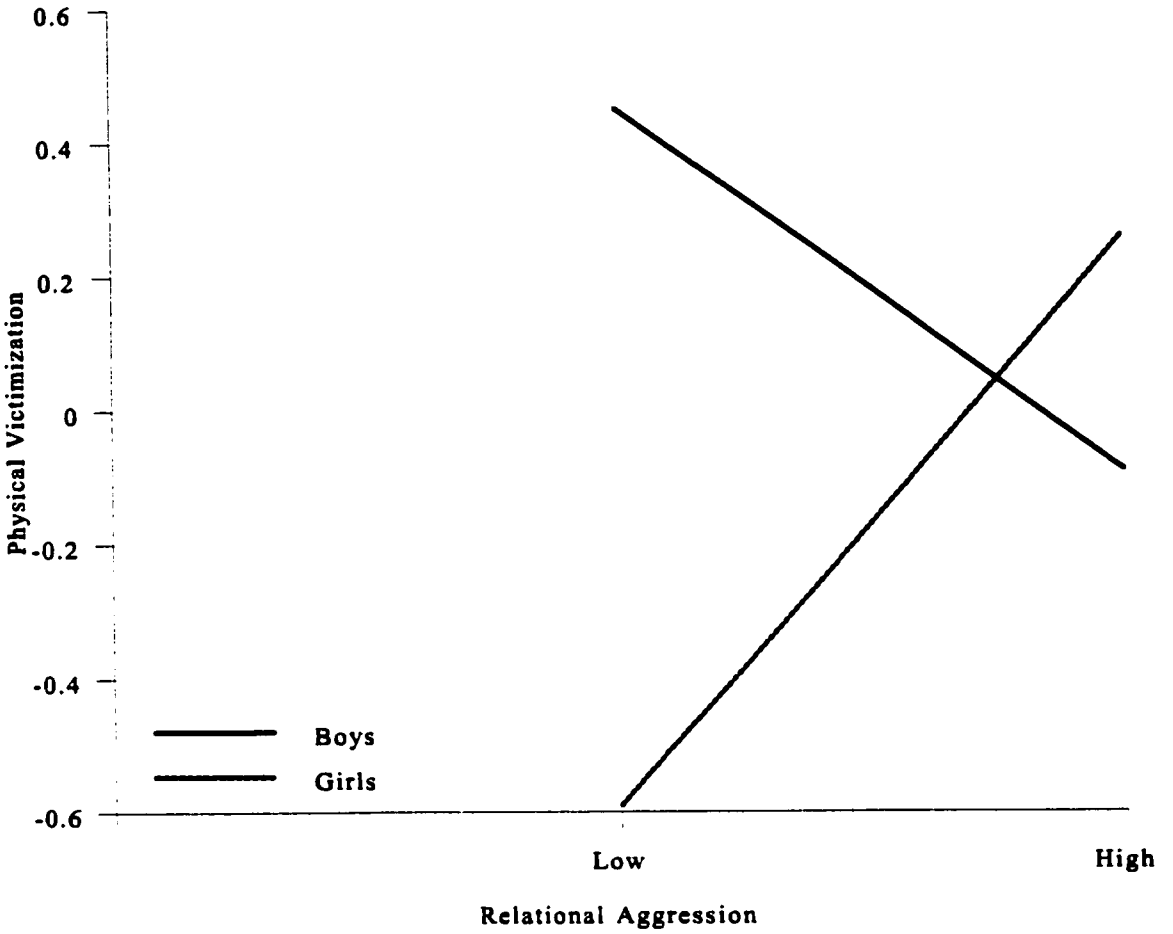

Figure 12. Interaction between sex and relational aggression in the prediction of physical victimization, controlling for aggression.

strong direct effect of physical aggression on physical victimization for girls, and no effect for boys (see Figure 13).

Relational victimization. In this regression, the first (physical aggression, relational aggression), $R^2 = .32$, F (2, 201) = 47.72, $p = .00$, third (actual self - male), $R^2 \Delta = .03$, $F \Delta$ (5, 198) = 8.33, $p = .004$, fifth (actual-ideal discrepancy - male, actual-ought discrepancy - male), $R^2 \Delta = .02$, $F \Delta$ (8, 195) = 3.03, $p = .05$, and tenth (sex X physical aggression, sex X relational aggression), $R^2 \Delta = .02$, $F \Delta$ (18, 185) = 3.04, $p = .05$, steps were significant (see Table 10). At the final step, there were significant main effects for relational aggression and actual-ideal discrepancy - male. Specifically, having higher relational aggression ratings and negative actual-ideal discrepancy - male ratings were predictive of relational victimization. As well, there was a significant sex X physical aggression interaction. To explain this interaction, the regression lines for boys and girls were graphed. As shown in Figure 14, for girls, physical aggression was directly predictive of relational victimization ratings, whereas the opposite was true of boys.

Self-Efficacy/Outcome Expectancy for Aggression Predicting Aggression/Victimization

It was expected that higher self-efficacy, self-reward, and peer approval for physical and relational aggression would be predictive of higher physical and relational aggression scores respectively. Lower self-efficacy, self-reward and peer approval for physical and relational aggression were expected to be predictive of higher physical and relational victimization scores respectively. Lower social self-efficacy for conflict and non-conflict situations were expected to be related to higher aggression and victimization scores.

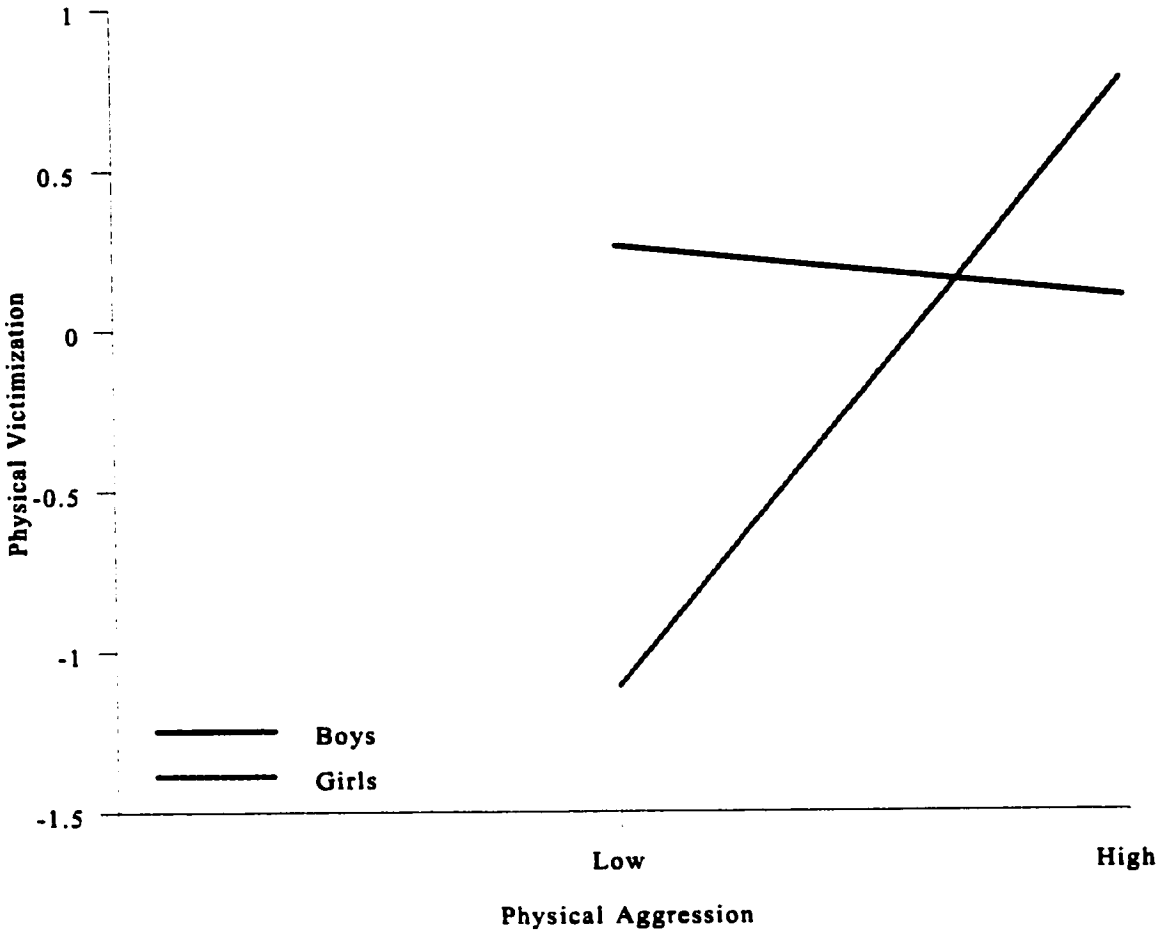

Figure 13. Interaction between sex and physical aggression in the prediction of physical victimization, controlling for aggression

Table 10.

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables and Physical and Relational Aggression Predicting Relational Victimization.

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.07	.72	.32***	.13	.95
	Relational aggression	.51	5.29***		.55	4.75***
2	Sex	-.08	-1.15	.01	.04	.43
	Age	.07	1.14		.03	.59
3	Actual self - male	-.18	-2.89**	.03**	.02	.15
4	Actual self- female	-.08	-1.11	.00	-.05	-.55
5	Actual-ideal discrepancy - male	-.20	-2.37*	.02*	-.27	-2.48**
	Actual-ought discrepancy - male	.00	-.06		.08	.74
6	Actual-ideal discrepancy - female	.03	.33	.00	.04	.46
	Actual-ought discrepancy - female	-.06	-.59		-.08	-.69
7	Sex X actual self - female	-.14	-1.83(*)	.01	-.13	-1.43
	Sex X actual self- male	.15	1.86(*)		-.01	-.06
8	Sex X actual-ideal discrepancy - male	.15	1.70(*)	.01	.11	1.04
	Sex X actual-ought discrepancy - male	.03	.44		.06	.54
9	Sex X actual-ideal discrepancy - female	.07	.71	.00	.07	.71

	Sex X actual-ought discrepancy - female	-.04	-.40		-.02	-.16
10	Sex X physical aggression	.29	2.30*	.02*	.29	2.30*
	Sex X relational aggression	-.16	-1.40		-.16	-1.40

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

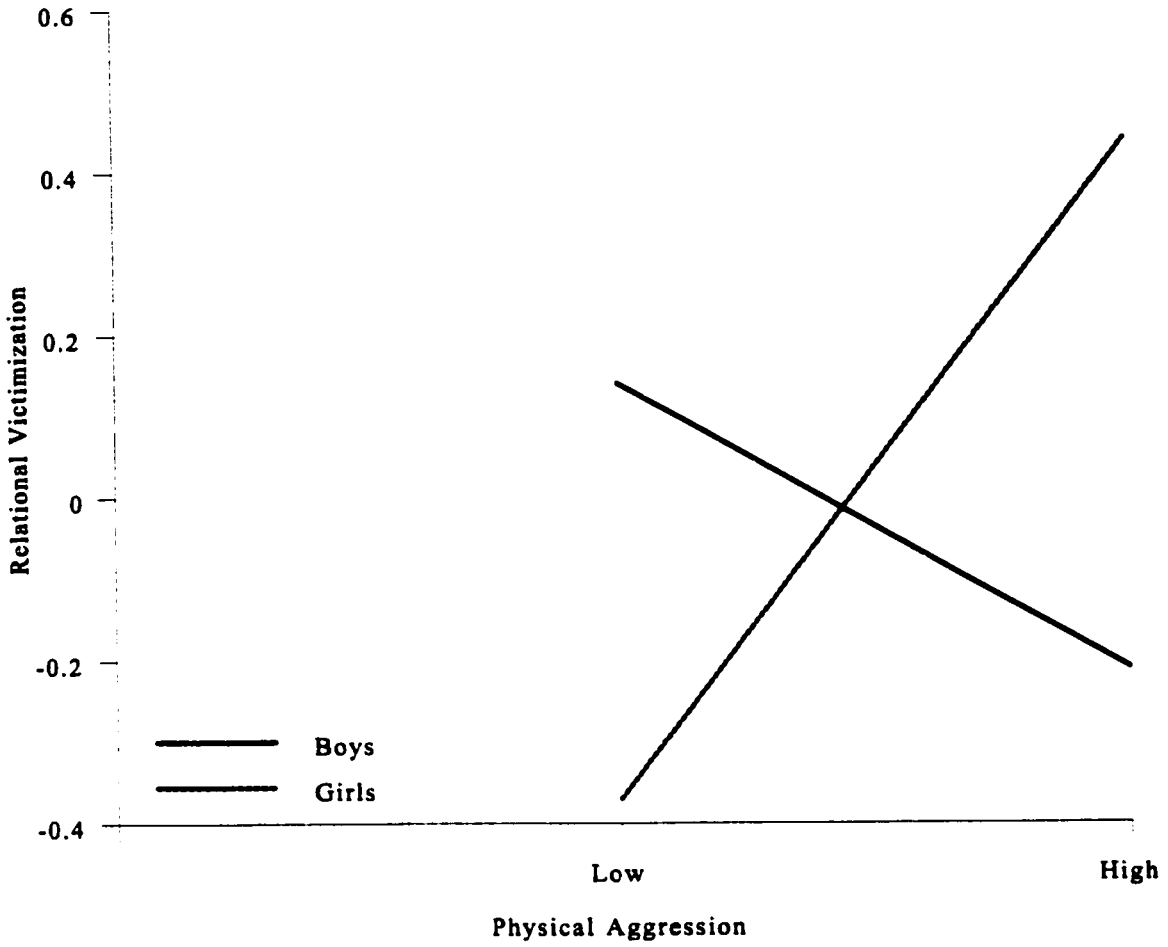

Figure 14. Interaction between sex and physical aggression in the prediction of relational victimization, controlling for aggression.

To determine whether children's self-efficacy and outcome expectancies for aggression were predictive of aggression and victimization, several multiple regressions were carried out. For each one, aggression (relational aggression for regressions predicting physical aggression, physical aggression for regressions predicting relational aggression, and both physical and relational aggression for regressions predicting victimization) was entered on the first step, sex and age were entered on the second step, and social self-efficacy for conflict and non-conflict situations were entered on the third step. On the fourth step, self-efficacy for aggression (physical or relational, depending on the outcome variable) was entered. On the fifth step, peer approval and self-reward for aggression (physical or relational, depending on the outcome variable) were entered. On the sixth step, the two-way interaction terms with sex were entered.

Physical aggression. As shown in Table 11, the first (relational aggression), R^2 = .57, F (1, 333) = 438.14, p = .00, second (sex, age), $R^2 \Delta$ = .18, $F \Delta$ (3, 331) = 114.68, p = .00, third (self-efficacy for conflict and non-conflict situations), $R^2 \Delta$= .01, $F \Delta$ (5, 329) = 4.63, p = .01, fourth (self-efficacy for physical aggression), $R^2 \Delta$= .02, $F \Delta$ (6, 328) = 28.16, p = .00, and sixth (two-way interactions with sex), $R^2 \Delta$= .03, $F \Delta$ (14, 320) = 8.99, p = .00, steps were significant upon entry. At the final step there were significant main effects for age and self-efficacy for physical aggression. Specifically, being older, and having higher self-efficacy for physical aggression were predictive of physical aggression ratings. In addition, there were significant sex X self-efficacy for conflict situations and sex X relational aggression interaction effects. To explain these

Table 11.

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy, Outcome Expectancy Variables, and Relational Aggression Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Relational aggression	.75	20.93***	.57***	.75	28.34***
2	Sex	-.41	-14.71***	.18***	-.37	-13.97***
	Age	.05	1.96*		.05	2.09*
3	Self-efficacy for conflict situations	.12	3.01**	.01**	.05	1.36
	Self-efficacy for non-conflict situations	-.07	-1.71(*)		-.03	-.94
4	Self-efficacy for physical aggression	.15	5.31***	.02***	.14	4.85***
5	Peer approval for physical aggression	-.06	-1.53	.00	-.02	-.62
	Self-reward for physical aggression	.04	.93		.01	.28
6	Sex X self-efficacy for conflict situations	.08	2.20*	.04***	.08	2.20*
	Sex X self-efficacy for non-conflict situations	.04	1.12		.04	1.12
	Sex X self-efficacy for physical aggression	-.03	-1.10		-.03	-1.10
	Sex X peer approval for physical aggression	-.02	-.49		-.02	-.49
	Sex X self-reward for physical	.01	.29		.01	.29

aggression				
Sex X relational aggression	-.15	-5.89***	-.15	-5.89***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

interactions, the regression lines for boys and girls were graphed. As shown in Figure 15, social self-efficacy for conflict situations was positively predictive of physical aggression ratings for girls, whereas for boys, social self-efficacy for conflict situations was not predictive of physical aggression ratings. As shown in Figure 16, for both sexes, relational aggression was predictive of physical aggression, though the regression line was steeper for boys than for girls, indicating a stronger effect.

Relational aggression. As shown in Table 12, the first (physical aggression), $\underline{R}^2$ = .59, $\underline{F}$ (1, 341) = 486.20, $\underline{p}$ = .00. second (sex, age), $\underline{R}^2$ Δ = .13, $\underline{F}$ Δ (3, 339) = 75.35, $\underline{p}$ = .00, and sixth (two-way interactions with sex), $\underline{R}^2$ Δ= .03, $\underline{F}$ Δ (14, 328) = 6.07, $\underline{p}$ = .00, steps were significant upon entry. At the final step, there was a significant main effect for age. Specifically, being younger was predictive of higher relational aggression ratings. There were also significant sex X social self-efficacy for conflict situations and sex X physical aggression interactions. To explain these interactions, the regression lines were graphed. As shown in Figure 17, girls had higher levels of relational aggression overall. Social self-efficacy for conflict situations was not significantly predictive of relational aggression for boys, and was negatively predictive of relational aggression for girls; that is, the more girls felt capable that they could respond prosocially to conflict situations, the less likely they were to use relational aggression. As shown in Figure 18, physical aggression ratings were strongly predictive of relational aggression, and the effect was stronger for girls than for boys, as shown by the steeper regression line.

Physical victimization. As shown in Table 13, the first (physical aggression, relational aggression), $\underline{R}^2$ = .17, $\underline{F}$ (2, 332) = 34.63, $\underline{p}$ = .00, second (sex, age), $\underline{R}^2$ Δ = .07, $\underline{F}$ Δ (3, 330) = 14.66, $\underline{p}$ = .00, third (self-efficacy for conflict situations, self-efficacy for

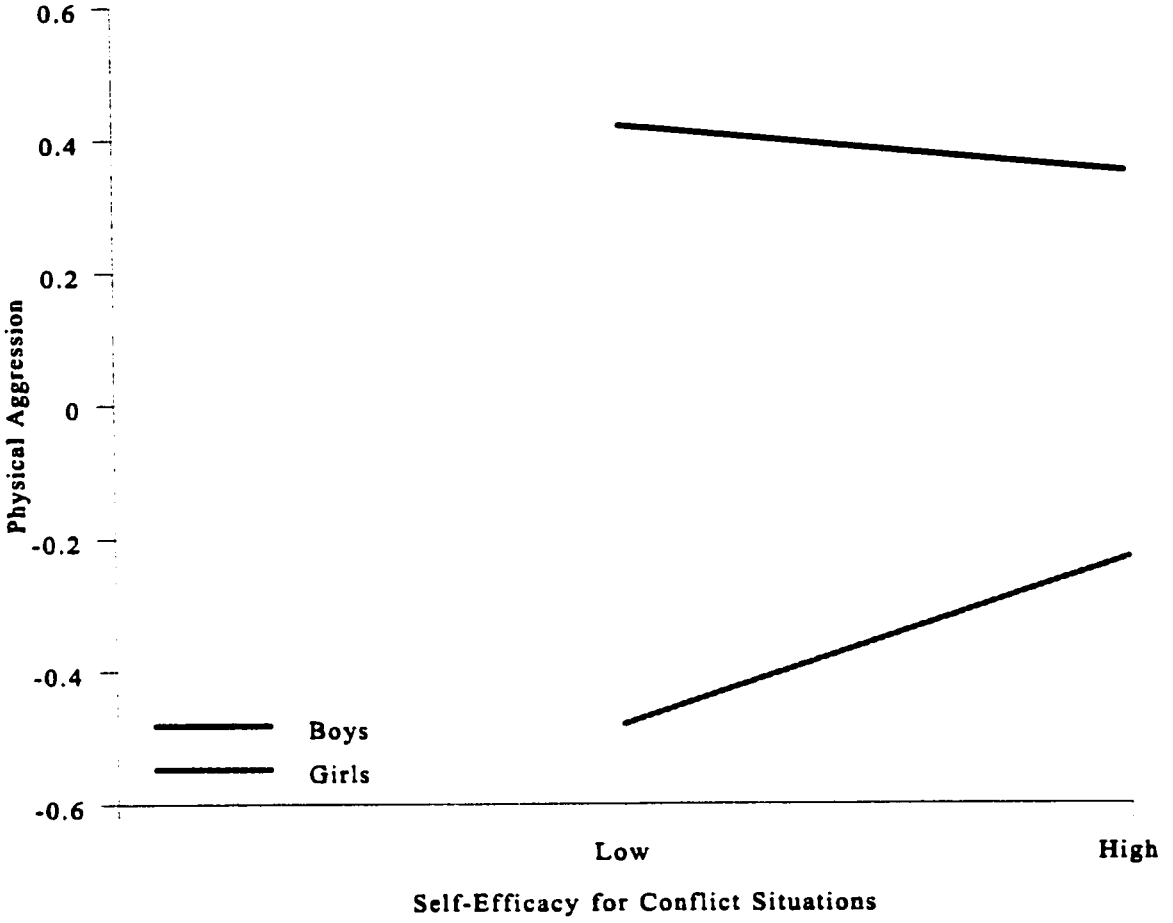

Figure 15. Interaction between sex and self-efficacy for conflict situations in the prediction of physical aggression, controlling for relational aggression.

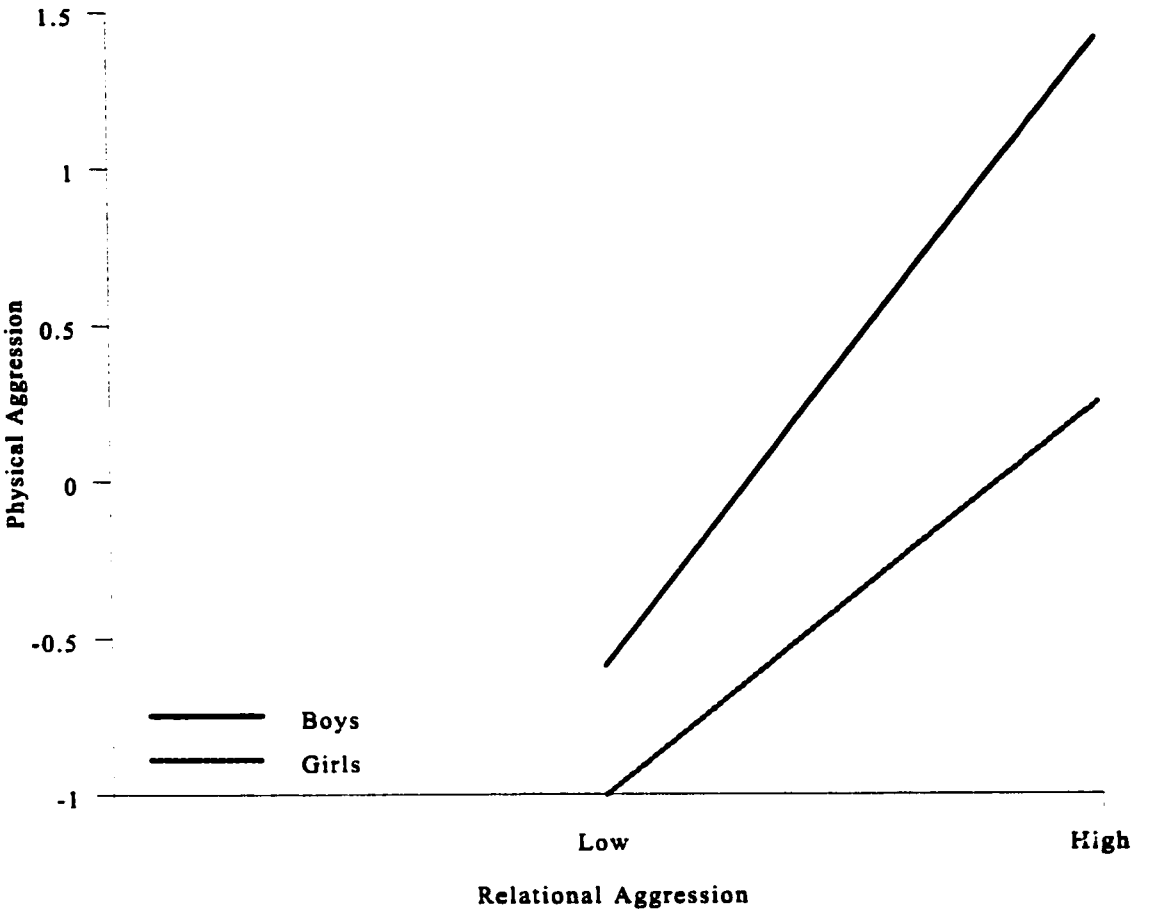

Figure 16. Interaction between sex and relational aggression in the prediction of physical aggression

Table 12.

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy, Outcome Expectancy Variables, and Physical Aggression Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.77	22.05***	.59***	.96	28.29***
2	Sex	.37	11.74***	.13***	.40	12.90***
	Age	-.07	-2.41*		-.09	-3.02**
3	Self-efficacy for conflict situations	-.06	-1.46	.00	-.02	-.60
	Self-efficacy for non-conflict situations	.09	2.15*		.06	1.57
4	Self-efficacy for relational aggression	.02	.63	.00	.01	.18
5	Peer approval for relational aggression	.06	1.43	.01(*)	.03	.67
	Self-reward for relational aggression	.02	.36		.03	.80
6	Sex X self-efficacy for conflict situations	-.08	-1.96*	.03***	-.08	-1.96*
	Sex X self-efficacy for non-conflict situations	-.04	-.95		-.04	-.95
	Sex X self-efficacy for relational aggression	.01	.24		.01	.24
	Sex X peer approval for relational aggression	.03	.82		.03	.82
	Sex X self-reward for relational					

aggression	.03	.66	.03	.66
Sex X physical aggression	.15	4.64***	.15	4.64***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

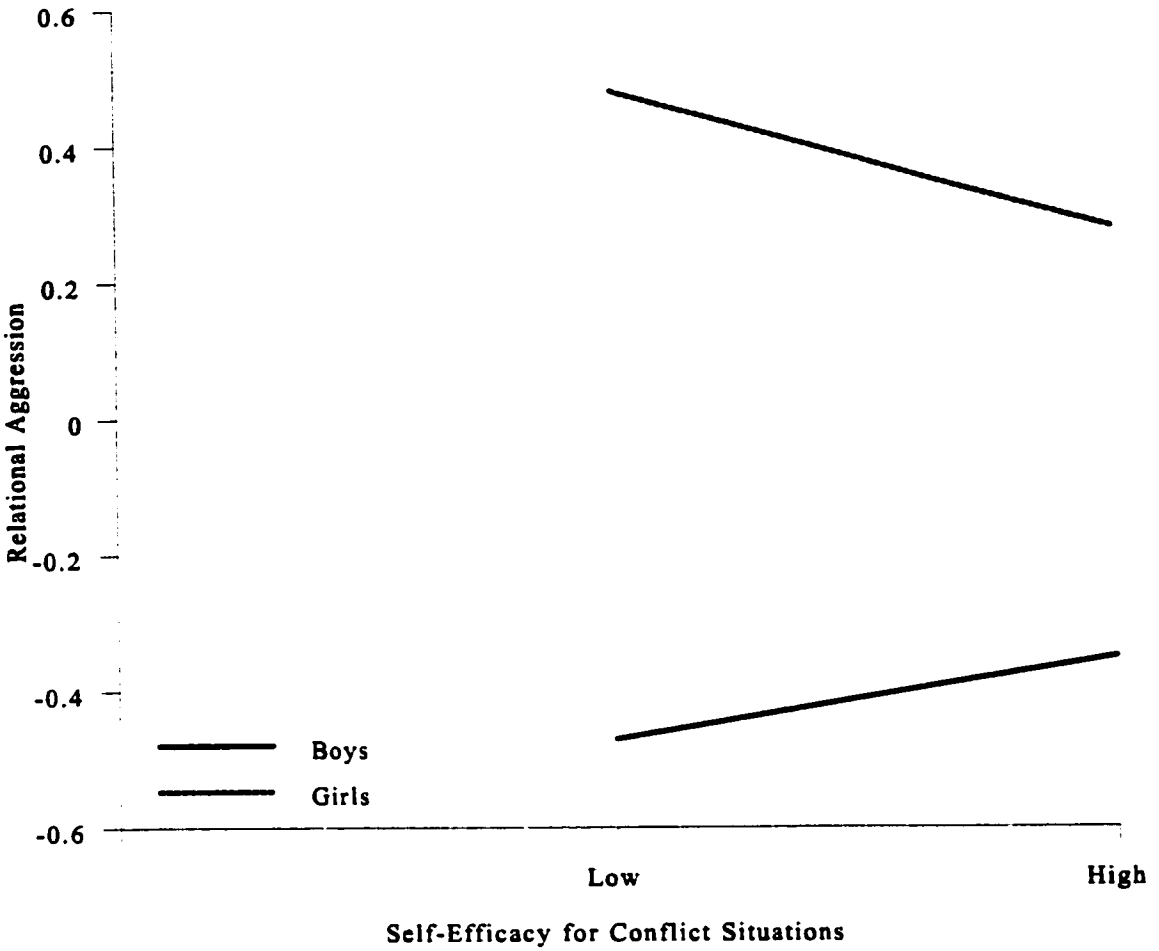

Figure 17. Interaction between sex and self-efficacy for conflict situations in the prediction of relational aggression, controlling for physical aggression.

Figure 18. Interaction between sex and physical aggression in the prediction of relational aggression, controlling for physical aggression.

Table 13.

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy, Outcome Expectancy Variables, and Aggression Predicting Physical Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.48	6.33***	.17***	.44	4.15***
	Relational aggression	-.09	-1.22		.02	.27
2	Sex	-.32	-5.22***	.07***	-.27	-4.32***
	Age	-.07	-1.54		-.06	-1.20
3	Self-efficacy for conflict situations	-.12	-1.74(*)	.04***	-.05	-.80
	Self-efficacy for non-conflict situations	-.11	-1.64(*)		-.14	-2.10*
4	Self-efficacy for physical aggression	-.09	-1.65(*)	.01(*)	-.10	-1.78(*)
5	Peer approval for physical aggression	.13	1.80(*)	.01	.14	1.90(*)
	Self-reward for physical aggression	-.10	-1.39		-.12	-1.65(*)
6	Sex X self-efficacy for conflict situations	-.06	-.95	.04**	-.06	-.95
	Sex X self-efficacy for non-conflict situations	-.02	-.26		-.02	-.26
	Sex X self-efficacy for physical aggression	.04	.68		.04	.68
	Sex X peer approval for physical aggression	.09	1.31		.09	1.31

Sex X self-reward for physical aggression	-.15	-2.05*	-.15	-2.05*
Sex X physical aggression	.25	2.57**	.25	2.57**
Sex X relational aggression	-.10	-1.12	.25	-1.12

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

non-conflict situations), R^2 Δ = .04, F Δ (6, 328) = 9.10, p = .00, and sixth (two-way interactions with sex), R^2 Δ= .04, F Δ (16, 318) = 2.69, p = .00, steps were significant. At the final step, there was a significant main effect for social self-efficacy for non-conflict situations. Specifically, having lower social self-efficacy for non-conflict situations was predictive of higher physical victimization scores. There were also significant sex X self-reward for physical aggression and sex X physical aggression interaction effects. As shown in Figure 19, self-reward for physical aggression was negatively predictive of physical victimization scores for girls, whereas for boys, self-reward for physical aggression was not predictive of physical victimization. As shown in Figure 20, physical aggression was directly predictive of physical victimization ratings for girls, but did not significantly predict physical victimization for boys.

Relational victimization. As shown in Table 14, the first (physical aggression, relational aggression), R^2 = .30, F (2, 340) = 74.36, p = .00, and third (social self-efficacy for conflict and non-conflict situations), R^2 Δ = .02, F Δ (6, 336) = 6.22, p = .002, steps were significant. At the final step, there were significant main effects for relational aggression and social self-efficacy for non-conflict situations. Specifically, relational aggression ratings were directly predictive of relational victimization. Social self-efficacy for non-conflict situations was negatively predictive of relational victimization; that is, the more children felt capable of handling non-conflict situations prosocially, the lower their relational victimization scores. In addition, there was a significant sex X physical aggression interaction. The regression lines for boys and girls were graphed to explain this interaction. As shown in Figure 21, physical aggression ratings were directly

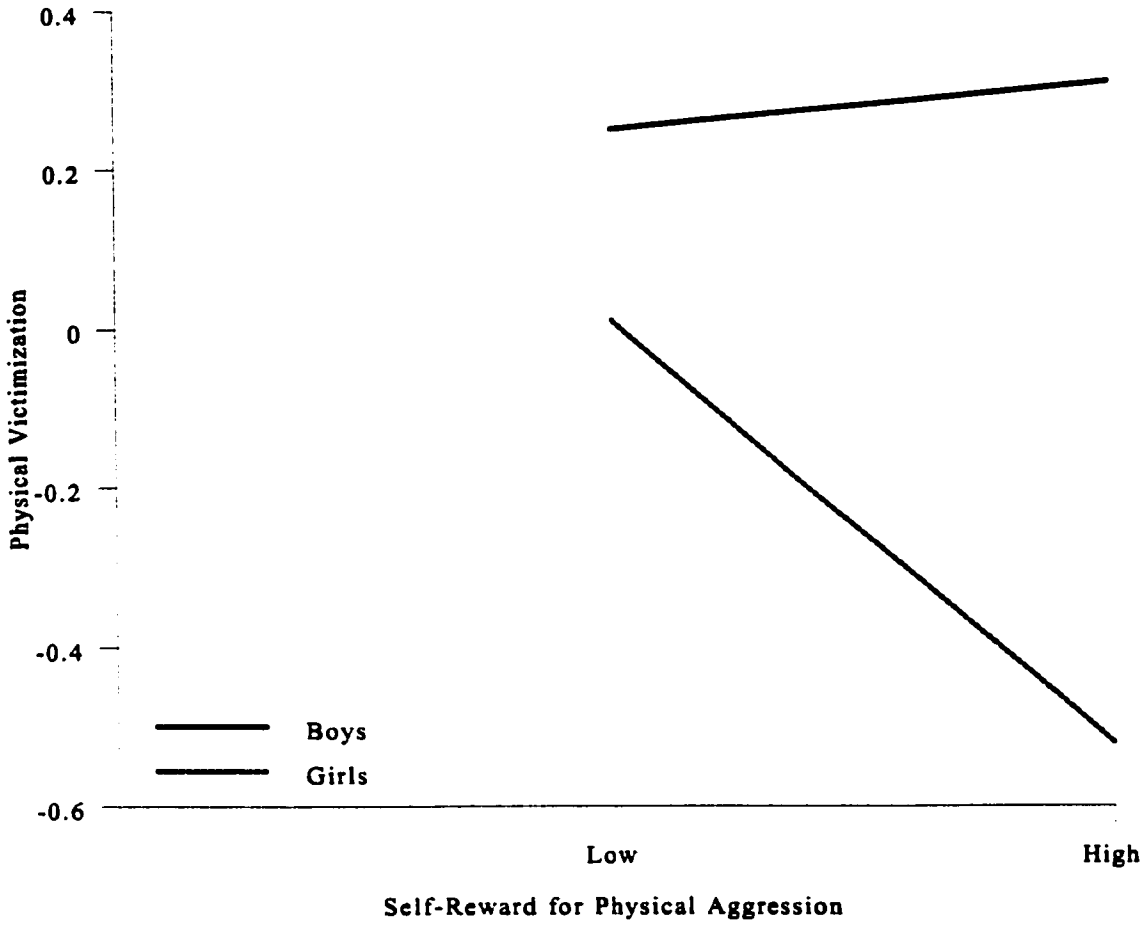

Figure 19. Interaction between sex and self-reward for physical aggression in the prediction of physical victimization, controlling for aggression.

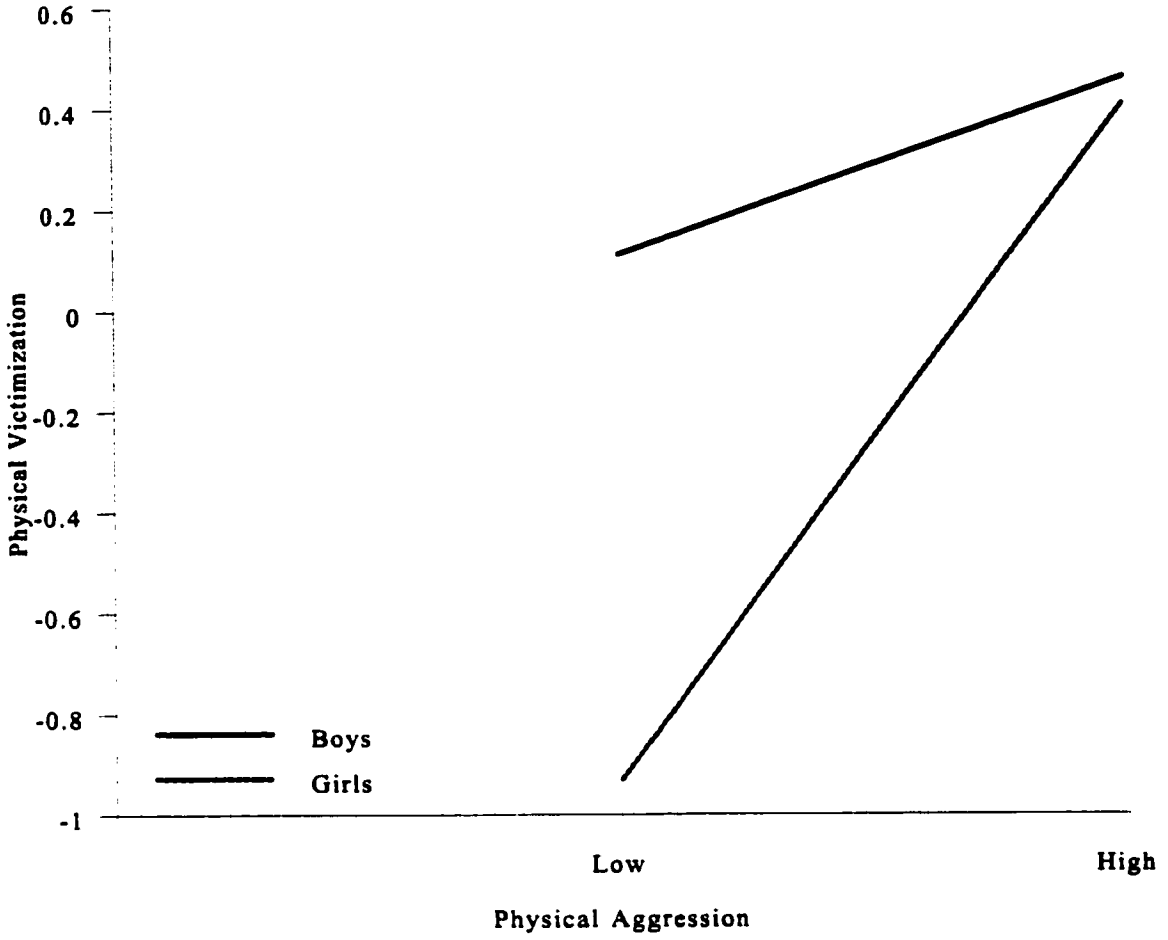

Figure 20. Interaction between sex and physical aggression in the prediction of physical victimization, controlling for aggression.

Table 14.

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy, Outcome Expectancy Variables, and Aggression Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.07	.98	.30***	.10	.98
	Relational aggression	.50	7.05***		.54	5.91***
2	Sex	-.05	-.80	.00	-.04	-.64
	Age	-.01	-.19		.01	.21
3	Self-efficacy for conflict situations	-.04	-.54	.02**	-.02	-.29
	Self-efficacy for non-conflict situations	-.14	-2.14*		-.15	-2.28*
4	Self-efficacy for relational aggression	.03	.74	.00	.06	1.27
5	Peer approval for physical aggression	.06	.90	.01	.05	.65
	Self-reward for physical aggression	-.11	-1.66(*)		-.11	-1.55
6	Sex X self-efficacy for conflict situations	.02	.37	.02	.02	.37
	Sex X self-efficacy for non-conflict situations	.01	.09		.01	.09
	Sex X self-efficacy for relational aggression	-.01	-.18		-.01	-.18
	Sex X peer approval for relational aggression	.07	1.07		.07	1.07

Sex X self-reward for relational aggression	-.10	-1.51	-.10	-1.51
Sex X physical aggression	.21	2.20*	.21	2.20*
Sex X relational aggression	-.11	-1.16	-.11	-1.16

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

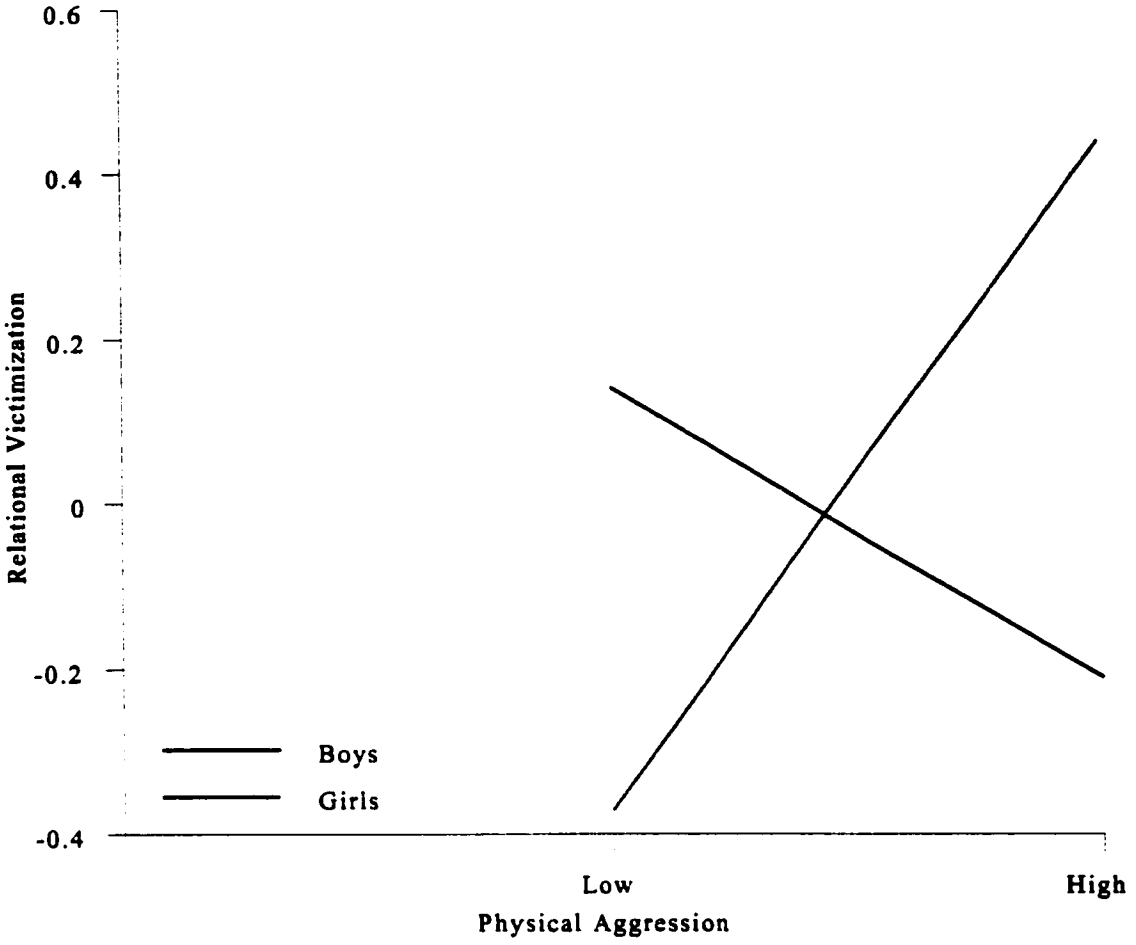

Figure 21. Interaction between sex and physical aggression in the prediction of relational victimization, controlling for aggression.

and strongly predictive of relational victimization ratings for girls, and were negatively and strongly predictive of relational victimization for boys.

Social Importance Predicting Aggression/Victimization

Children who had higher social importance scores were expected to be more likely to be involved in aggression and victimization. In particular, children, regardless of their sex, were expected to be higher in relational aggression and victimization when their social importance for female dominance-related characteristics was higher, and were expected to be higher in physical aggression and victimization when their social importance for male dominance-related characteristics was higher. To determine whether children's social importance scores were predictive of their aggression and victimization, the following multiple regression analyses were carried out. On the first step, aggression (relational aggression for regressions predicting physical aggression, physical aggression for regressions predicting relational aggression, and both physical and relational aggression for regressions predicting victimization) was entered. Sex and age were entered on the second step, social importance for male and female dominance-related characteristics were entered on the third step. and interaction terms with sex were entered on the fourth step.

Physical aggression. As shown in Table 15, the first (relational aggression), R^2 = .59, F (1, 348) = 498.11, p = .00, second (sex, age), $R^2 \Delta$ = .17, $F \Delta$(3, 346) = 120.63, p = .00, and fourth (two-way interactions with sex), $R^2 \Delta$ = .04, $F \Delta$ (8, 341) = 18.64, p = .00, steps were significant. At the final step, there were significant main effects for age and social importance - female. Specifically, being older and having a lower social importance - female rating were predictive of physical aggression. As well, there was a

Table 15.

Summary of Hierarchical Multiple Regression Analysis for Social Importance Variables and Relational Aggression Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Relational aggression	.77	22.32***	.59***	.80	31.81***
2	Sex	-.40	-15.22***	.17***	-.39	-15.69***
	Age	.04	1.57		.07	2.63**
3	Social importance - male	.02	.65	.00(*)	.03	.95
	Social importance - female	-.07	-2.06*		-.08	-2.48**
4	Sex X social importance - male	-.02	-.57	.03***	-.02	-.57
	Sex X social importance - female	.03	.82		.03	.82
	Sex X relational aggression	-.19	-7.34***		-.19	-7.34***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

significant sex X relational aggression interaction. The regression lines for boys and girls were graphed in order to explain this interaction. As shown in Figure 22, relational aggression was predictive of physical aggression, and this effect was stronger for boys compared to girls.

Relational aggression. As shown in Table 16, the first (physical aggression), R^2 = .59, F (1, 348) = 498.11, p = .00, second (sex, age), $R^2 \Delta$ = .13, $F \Delta$ (3, 346) = 76.45, p = .00, third (social importance - male, social importance - female), $R^2 \Delta$ = .01, $F \Delta$(5, 344) = 7.83, p = .001 and fourth (two-way interactions with sex), $R^2 \Delta$ =.03, $F \Delta$ (8, 341) = 11.39, p = .00, steps were significant. At the final step, there were significant main effects for age and social importance - female. Specifically, being younger and having a higher social importance - female rating were predictive of relational aggression. As well, there was a significant sex X physical aggression interaction. The regression lines for boys and girls were graphed in order to explain this interaction. As shown in Figure 23, physical aggression was predictive of relational aggression, and this effect was stronger for girls compared to boys.

Physical victimization. As shown in Table 17, the first (physical aggression, relational aggression), R^2 = .19, F (2, 347) = 39.59, p = .00, second (sex, age), $R^2 \Delta$ = .07, $F \Delta$ (4, 345) = 16.08, p = .00, and fourth (sex X social importance - male, sex X social importance -female, sex X physical aggression, sex X relational aggression), $R^2 \Delta$ = .05, $F \Delta$ (10, 339) = 6.09, p = .00, steps were significant. At the final step, there was a significant main effect for age. Specifically, being younger was predictive of physical victimization. As well, there was a significant sex X physical aggression interaction. The regression lines for boys and girls were graphed in order to explain this interaction.

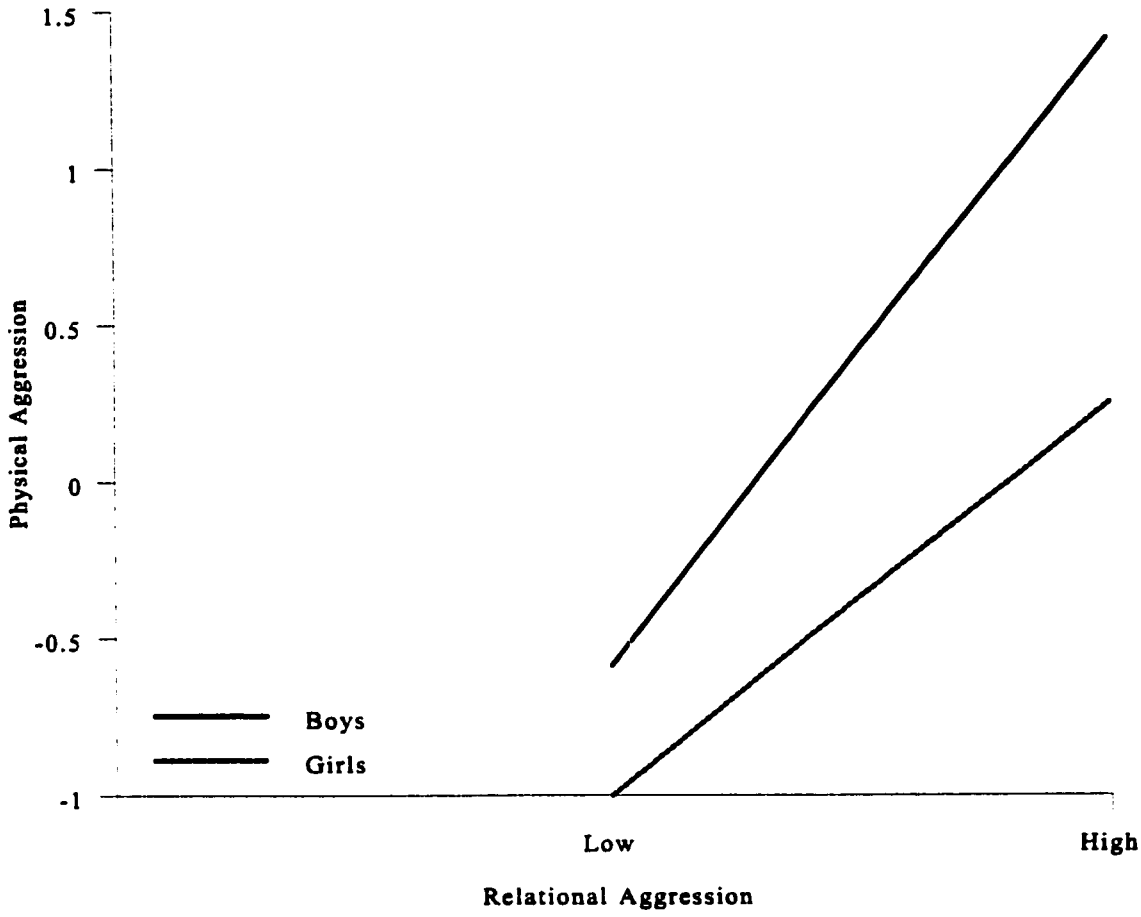

Figure 22. Interaction between sex and relational aggression in the prediction of physical aggression

Table 16.

Summary of Hierarchical Multiple Regression Analysis for Social Importance Variables and Physical Aggression Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.77	22.32***	.59***	.96	30.59***
2	Sex	.38	11.99***	.13***	.38	12.77***
	Age	-.05	-1.89(*)		-.08	-2.77**
3	Social importance - male	.00	.04	.01***	.00	-.02
	Social importance - female	.11	3.05**		.11	3.24***
4	Sex X social importance - male	.04	1.03	.03***	.04	1.03
	Sex X social importance - female	-.01	-.40		-.01	-.40
	Sex X physical aggression	.16	5.56***		.16	5.56***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

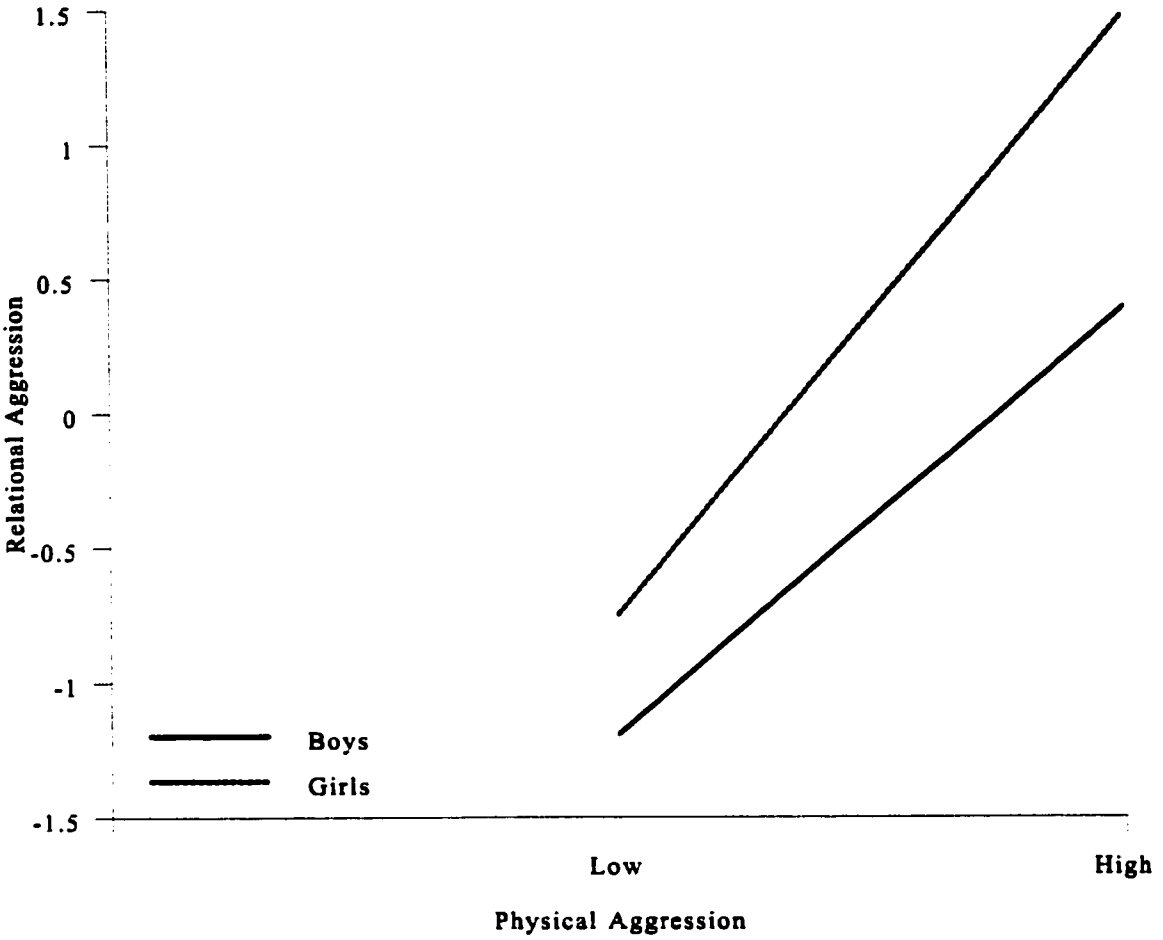

Figure 23. Interaction between sex and physical aggression in the prediction of relational aggression.

Table 17.

Summary of Hierarchical Multiple Regression Analysis for Social Importance Variables and Aggression Predicting Physical Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.47	6.25***	.19***	.35	3.43***
	Relational aggression	-.06	-.74		.10	1.13
2	Sex	-.31	-5.15***	.07***	-.26	-4.19***
	Age	-.12	-2.51**		-.13	-2.74**
3	Social importance - male	.05	.81	.01	.05	.76
	Social importance - female	-.10	-1.60		-.09	-1.46
4	Sex X social importance - male	.04	.67	.05***	.04	.67
	Sex X social importance - female	-.07	-1.11		-.07	-1.11
	Sex X physical aggression	.36	3.87***		.36	3.87***
	Sex X relational aggression	-.16	-1.73(*)		-.16	-1.73(*)

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

As shown in Figure 24, whereas for boys, physical victimization was high regardless of physical aggression ratings, for girls, physical aggression was strongly predictive of physical victimization ratings.

Relational victimization. As shown in Table 18, the first (physical aggression, relational aggression), $\underline{R}^2 = .32$, $\underline{F}\ (2, 347) = 80.44$, $\underline{p} = .00$, and fourth (two-way interactions with sex), $\underline{R}^2\ \Delta = .03$, $\underline{F}\ \Delta\ (10, 339) = 3.99$, $\underline{p} = .004$, steps were significant. At the final step, there was a significant main effect for relational aggression. Specifically, relational aggression ratings were positively predictive of relational victimization. As well, there was a significant sex X physical aggression interaction. The regression lines for boys and girls were graphed in order to explain this interaction. As shown in Figure 25, for boys, physical aggression was negatively predictive of relational victimization, whereas for girls, physical aggression was directly predictive relational victimization. The effect was much stronger for girls compared to boys.

Summary of Results of Multiple Regressions Analyses Predicting Aggression and Victimization, Controlling for Aggression

Table 19 summarizes the significant findings pertaining to the prediction of aggression and victimization, after aggression was controlled for in the analyses. A plus sign (+) indicates that the prediction is a positive one, and a negative sign (-) indicates a negative predictive value. A negative (-) sex main effect indicates that boys are higher on the predicted variable, and a positive (+) sex main effect indicates that girls were higher. When a sex difference was evident, "m" for males and "f" for females were used to explain the effect for each sex; when this distinction is not made, the effect held true for children of both sexes.

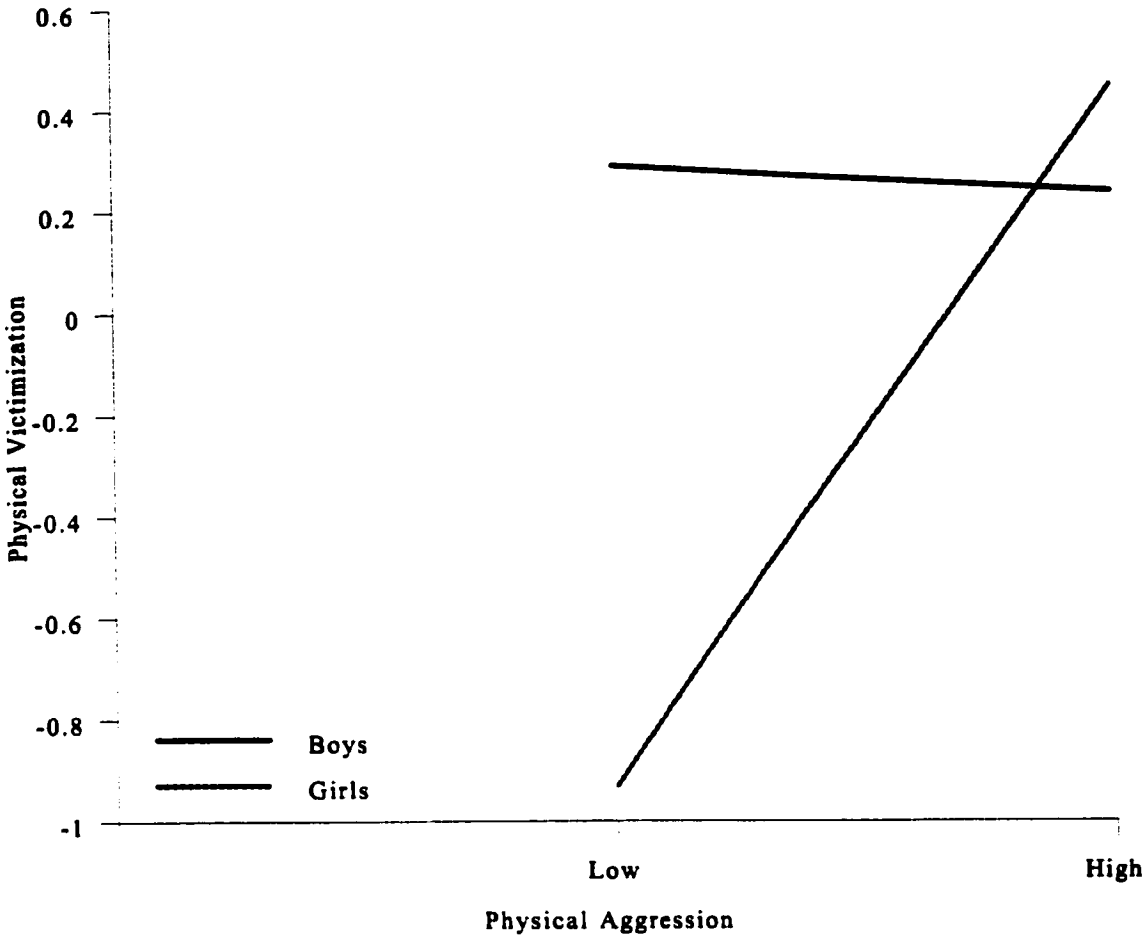

Figure 24. Interaction between sex and physical aggression in the prediction of physical victimization

Table 18.

Summary of Hierarchical Multiple Regression Analysis for Social Importance Variables and Aggression Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Physical aggression	.06	.83	.32***	.14	1.41
	Relational aggression	.52	7.48***		.51	5.69***
2	Sex	-.03	-.44	.00	.01	.23
	Age	-.04	.89		-.05	-1.00
3	Social importance - male	.08	1.35	.01	.08	1.31
	Social importance - female	-.11	-1.88(*)		-.08	-1.37
4	Sex X social importance - male	.04	.62	.03**	.04	.62
	Sex X social importance - female	-.08	-1.37		-.08	-1.37
	Sex X physical aggression	.30	3.29***		.30	3.29***
	Sex X relational aggression	-.17	-1.89(*)		-.17	-1.89(*)

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

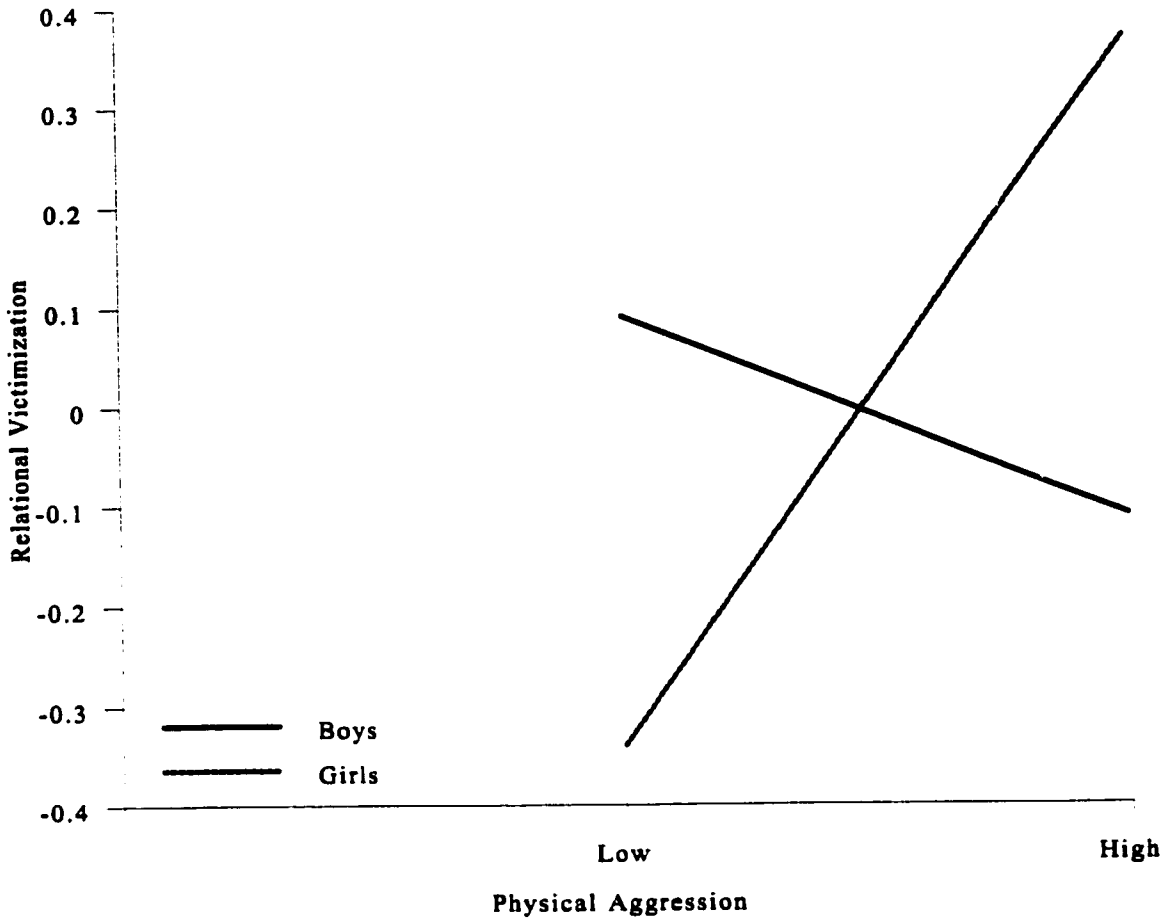

Figure 25. Interaction between sex and physical aggression in the prediction of relational victimization.

Table 19.

Summary of results of multiple regression analyses predicting aggression and victimization, controlling for aggression

Variable	Predictor of:			
	Physical aggression	Relational aggression	Physical victimization	Relational victimization
Sex	–	+		
Age	+	–	–	
Relational aggression	+		– (m) + (f)	+
Physical aggression		+	+ (f)	– (m) + (f)
Dominance	– (f)	+ (f)	–	–
Actual-ideal discrepancy – male			– (m)	
Self-efficacy for physical aggression	+			
Self-efficacy for conflict situations	+ (f)	– (f)		
Self-efficacy for non-conflict situations			–	–
Self-reward for physical aggression			– (f)	
Social importance – female	–	+		

Overall Multiple Regression Analyses to test Independence of Significant Predictors

Four final multiple regression analyses were carried out, including as predictors all the predictors that had been significant in previous analyses. The purpose of this final set of analyses was to determine whether predictors from separate domains (i.e., dominance, self-discrepancy, self-efficacy, and social importance) retained their significance when analysed together in the same equation, and thus provided independent predictive value. Only the variables that retained significance (main effects and interactions) at the final step of analysis were entered in the equations.

Physical Aggression. In this regression, sex and age were entered on the first step, relational aggression was entered on the second step, dominance was entered on the third step, self-efficacy for physical aggression and social self-efficacy for conflict situations were entered on the fourth step, social importance for female dominance-related characteristics was entered on the fifth step, and interaction terms (sex X dominance, sex X social self-efficacy for conflict situations, sex X relational aggression) were entered on the sixth step. As shown in Table 20, the first (sex, age), $R^2 = .41$, $F (2, 335) = 33.64$, $p = .00$, second (relational aggression), $R^2 \Delta = .59$, $F \Delta(3, 334) = 793.38$, $p = .00$, fourth (self-efficacy for physical aggression, social self-efficacy for conflict situations), $R^2 \Delta = .03$, $F \Delta (6, 341) = 18.73$, $p = .00$, fifth (social importance for female dominance-related characteristics), $R^2 \Delta = .01$, $F \Delta (7, 330) = 5.44$, $p = .02$, and sixth (two-way interaction terms with sex), $R^2 \Delta = .04$, $F \Delta (10, 327) = 23.77$, $p = .00$, steps were significant. At the final step, there were significant main effects for age and social importance, specifically, being older and having a lower social importance - female rating were predictive of physical aggression. As well, there were significant sex X dominance, sex

Table 20.

Summary of Hierarchical Multiple Regression Analysis including all Significant Predictors from Analyses Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.41	-8.13***	.17***	-.36	-14.07***
	Age	.01	.18		.05	2.00*
2	Relational Aggression	.77	28.17***	.59***	.75	27.23***
3	Dominance	.01	.28	.00	.00	-.02
4	Self-efficacy for physical aggression	.16	5.41***	.03***	.15	5.61***
	Self-efficacy for conflict situations	.05	1.87(*)		.04	1.64(*)
5	Social importance – female	-.06	-2.33*	.01*	-.07	-2.84**
6	Sex X dominance	-.07	-2.67**	.04***	-.07	-2.67**
	Sex X self-efficacy for conflict situations	.06	2.45**		.06	2.45**
	Sex X relational aggression	-.14	-5.09***		-.14	-5.09***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

X social self-efficacy for conflict situations, and sex X relational aggression interactions. The only variable that did not retain significance in this analysis was self-efficacy for physical aggression. The Beta weights for all significant main effects and interactions were identical in direction and similar in magnitude to those found in previous analyses.

Relational Aggression. In this regression, sex and age were entered on the first step, physical aggression was entered on the second step, dominance was entered on the third step, social self-efficacy for conflict situations was entered on the fourth step, social importance for female dominance-related characteristics was entered on the fifth step, and interaction terms (sex X dominance, sex X social self-efficacy for conflict situations, sex X physical aggression) were entered on the sixth step. As shown in Table 21, the second (physical aggression), $R^2 \Delta = .71$, $F \Delta(3, 339) = 828.41$, $p = .00$, third (dominance), $R^2 \Delta = .02$, $F \Delta(4, 338) = 23.15$, $p = .00$, fourth (self-efficacy for physical aggression, social self-efficacy for conflict situations), fifth (social importance for female dominance-related characteristics), $R^2 \Delta = .01$, $F \Delta (6, 336) = 13.79$, $p = .00$, and sixth (two-way interaction terms with sex), $R^2 \Delta = .03$, $F \Delta (9, 333) = 15.70$, $p = .00$, steps were significant. At the final step, there were significant main effects for age and social importance, specifically, being younger and having a higher social importance - female rating were predictive of relational aggression. As well, there were significant sex X dominance, and sex X physical aggression interactions. Neither the main effect of social self-efficacy for conflict situations nor the interaction of this variable by sex retained significance in this analysis. The Beta weights for all significant main effects and interactions were identical in direction and similar in magnitude to those found in previous analyses.

Table 21.

Summary of Hierarchical Multiple Regression Analysis including all Significant Predictors from Analyses Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	.00	-.02	.01	.35	11.77***
	Age	-.05	-.86		-.06	-2.23*
2	Physical Aggression	.92	28.78***	.71***	.92	27.76***
3	Dominance	.15	4.81***	.02***	.13	4.54***
4	Self-efficacy for conflict situations	-.03	-.89	.00	-.02	-.87
5	Social importance – female	.11	3.71***	.02***	.11	3.95***
6	Sex X self-efficacy for conflict situations	-.05	-1.84(*)	.03***	-.05	-1.84(*)
	Sex X dominance	.09	3.06**		.09	3.06**
	Sex X physical aggression	.12	3.83***		.12	3.83***

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Physical Victimization. In this regression, sex and age were entered on the first step, relational and physical aggression were entered on the second step, dominance was entered on the third step, actual-ideal discrepancy – male was entered on the fourth step, self-reward for physical aggression and social self-efficacy for non-conflict situations were entered on the fifth step, and interaction terms (sex X dominance, sex X relational aggression, sex X physical aggression, sex X actual-ideal discrepancy – male, sex X self-reward for physical aggression) were entered on the sixth step. As shown in Table 22, the first (sex, age), $R^2 = .18$, $F\ \Delta(2, 214) = 23.98$, $p = .00$, second (relational and physical aggression), $R^2\ \Delta = .09$, $F\ \Delta(4, 212) = 12.27$, $p = .00$, third (dominance), $R^2\ \Delta = .12$, $F\ \Delta(5, 211) = 43.36$, $p = .00$, fourth (actual-ideal discrepancy – male), $R^2\ \Delta = .02$, $F\ \Delta(6, 210) = 6.98$, $p = .01$, and sixth (two-way interaction terms with sex), $R^2\ \Delta = .08$, $F\ \Delta(13, 203) = 6.01$, $p = .00$, steps were significant. At the final step, there was a significant main effect for dominance, with lower dominance being predictive of physical victimization. As well, there were significant sex X relational aggression, sex X physical aggression, and sex X actual-ideal discrepancy - male interactions. The main effects of age, self-reward for physical aggression, social self-efficacy for non-conflict situations, and the sex X dominance interaction did not retain significance in this analysis. The Beta weights for all significant main effects and interactions were identical in direction and similar in magnitude to those found in previous analyses.

Relational Victimization. In this regression, relational and physical aggression were entered on the first step, dominance was entered on the second step, actual-ideal discrepancy – male was entered on the third step, social self-efficacy for non-conflict situations was entered on the fourth step, and a sex X physical aggression interaction

Table 22.

Summary of Hierarchical Multiple Regression Analysis including all Significant Predictors from Analyses Predicting Physical Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	B	t
1	Sex	-.43	-6.92***	.18***	-.11	-1.50
	Age	-.06	-.92		-.06	-1.27
2	Relational Aggression	.13	1.18	.08***	.18	1.71(*)
	Physical Aggression	.19	1.61		.47	3.92***
3	Dominance	-.41	-6.59***	.12***	-.34	-5.42***
4	Actual-ideal discrepancy – male	-.15	-2.64**	.02**	-.17	-2.99**
5	Self-reward for physical aggression	-.04	-.82	.00	-.04	-.79
	Self-efficacy for non-conflict situations	-.05	.97		-.04	-.68
6	Sex X dominance	.11	1.81(*)	.07***	.11	1.81(*)
	Sex X relational aggression	-.26	-2.54**		-.26	-2.54**
	Sex X physical aggression	.36	3.20**		.36	3.20**
	Sex X actual-ideal discrepancy – male	.17	3.02**		.17	3.02**
	Sex X self-reward for physical aggression	-.01	-.27		-.01	-.27

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

terms was entered on the fifth step. As shown in Table 23, the first (relational and physical aggression), $\underline{R}^2$ = .31, $\underline{F}$ Δ(2, 215) = 47.84, $\underline{p}$ = .00, second (dominance), $\underline{R}^2$ Δ = .16, $\underline{F}$ Δ(3, 214) = 63.80, $\underline{p}$ = .00, third (actual-ideal discrepancy – male), $\underline{R}^2$ Δ = .01, $\underline{F}$ Δ(4, 213) = 5.16, $\underline{p}$ = .02, and fifth (sex X physical aggression), $\underline{R}^2$ Δ = .01, $\underline{F}$ Δ (6, 211) = 3.80, $\underline{p}$ = .05, steps were significant. At the final step, there were significant main effects for relational aggression, dominance, and actual-ideal discrepancy – male, with higher relational aggression, lower dominance, and negative actual-ideal discrepancy – male being predictive of relational victimization. As well, there was a significant sex X physical aggression interaction. The main effect of social self-efficacy for non-conflict situations did not retain significance in this analysis. The Beta weights for all significant main effects and interactions were identical in direction and similar in magnitude to those found in previous analyses.

Table 23.

Summary of Hierarchical Multiple Regression Analysis including all Significant Predictors from Analyses Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	B	t
1	Relational Aggression	.52	5.63***	.31***	.79	9.05***
	Physical Aggression	.05	.52		.01	.09
2	Dominance	-.46	-7.99***	.16***	-.42	-7.17***
3	Actual-ideal discrepancy – male	-.12	-2.27*	.01*	-.10	-1.96*
4	Self-efficacy for non-conflict situations	-.04	-.84	.00	-.05	-.99
5	Sex X physical aggression	.10	1.95*	.01*	.10	1.95*

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

DISCUSSION

This paper had four major goals. First, we aimed to determine the most parsimonious conceptualization of types of aggression. Recently, there has been heightened interest, in the research literature as well as in popular media, in female aggression. Several separate research groups have posited names and definitions for the type of aggression believed to be more typical of girls than of boys, though the constructs studied by these various groups are largely overlapping. Notwithstanding the value of this research in increasing our knowledge about the type of aggression that may be more typical of females than of males, considerable confusion has resulted from separate researchers employing different terms for what may be the same underlying construct. Thus, the first major goal of the paper was to clarify the murky and controversial issue of how to best conceptualise the forms of aggression and victimization. The second goal was to examine sex differences in types of aggression and victimization in the present sample. Previous research has shown consistently that boys engage in more physical aggression and are more physically victimized than girls. The findings for relational aggression and victimization have been less clear. Whereas most researchers have found girls to engage in more relational aggression than boys, others have reported no sex differences.

The third goal of this study was to determine the reasons for sex differences in type of aggression. Crick and Grotpeter (1995) proposed that sex differences in aggressive strategies should emerge in a manner that is consistent with the social concerns of boys and girls. In their view children use the aggressive strategy that would be expected to best damage the social goals valued by the respective gender group.

Although this notion is concurrent with girls' greater use of relationally aggressive strategies and boys' greater use of physical aggression, it has not been tested empirically. A new definition of aggression was proposed in the present paper, which calls into question the "intent to harm" criterion of aggression, and instead suggests that the true, underlying intent of aggression is to maintain or increase the dominance status of the aggressor, though a result is harm to the victim. In this view, relational aggression would be more prevalent among girls because girls aim to increase their gender group status through demonstrating their ability to influence relationships; boys' attempts to increase their status manifest themselves in demonstrations of physical prowess, as in physical aggression. Thus, adjusting Crick and Grotpeter's hypothesis, the present study aimed to empirically test the notion that girls and boys aggress in ways that best serve to maintain or increase their dominance status in their respective gender groups. To this end, we first examined how the dominance structure of the family is related to the child's place in the peer dominance hierarchy. Second, we investigated individual factors that may be related to the use of different aggressive strategies. Specifically, we were interested in the prediction of aggression and victimization from children's peer dominance status, as well as from their ratings of how much they felt they did/would like to/ought to possess the dominance-related characteristics that are valued by their respective gender group, and how much importance they placed on their peers thinking they possessed those characteristics. Additionally, we examined the extent to which children felt capable of carrying out aggressive as well as prosocial acts, and the outcomes that they expected for aggression.

The final goal of the study was to examine the association between aggression and victimization in the present sample. A significant proportion of children who are victimized also engage in aggression toward their peers (Atlas & Peplar, 1998; Schwartz et al., 2001). Crick (1997) has reported that children who engage in gender non-normative aggression are more maladjusted psycho-socially than those who display gender normative aggression. Of interest in this study was whether children who displayed gender non-normative aggression would be victimized by their peers to a greater extent than those whose aggressive style was gender normative.

The first question we addressed was: What is the best way to conceptualize the various forms of aggression and victimization?

It was hypothesized that a 4-Factor model (indirect and direct physical and indirect and direct relational aggression) would provide the best fit to explain the various forms of aggression. This hypothesis was not supported. Rather, a 2-Factor model, with physical aggression and relational aggression as the factors, provided the best fit. These two factors were very highly correlated, but they nevertheless emerged as separate factors, thus it seemed useful to view them as such. Contrary to expectations, neither indirect and direct relational aggression nor indirect and direct physical aggression emerged as separate factors. The terms "indirect," "relational," and "social," have been used to describe the style of aggression that is believed to be employed more by girls than by boys, though there appears, from this analysis, that there exist no differences in the type of aggression being studied using each of these terms. Rather, as noted by Bjorkqvist (2001), they appear to represent the same construct. It was surprising that indirect and direct aggression were not distinguishable from one another in this study. It

was expected that they would load on separate factors, and that there would be differences in the individual characteristics of children who were directly versus indirectly aggressive toward their peers. Because there did not appear to be differences between indirect aggression and those aggressive strategies which are more direct, it does not seem useful to distinguish between them. If indirect non-physical aggression does not stand on its own as a type of aggression, then it will perhaps be more useful to conceive of a type of non-physical aggression that includes direct and indirect strategies. None of the terms employed to date seem to capture the notion of aggression that harms another directly or indirectly through the infliction of social injuries (Underwood, Galen, & Paquette, 2001b). As discussed earlier, the terms relational and social have the shortcoming of not being clearly distinguishable from physical aggression, as all aggression is social in nature, having to do with the social relations between individuals or groups (Baumeister & Sommer, 1997; Bjorkqvist, 2001). The term "indirect" is useful only if indirect and direct aggression are distinct constructs, and the results of this study suggest that they are not. Thus, a term such as "psychological" may be more representative, as the aggressive act harms the psyche of the victim as opposed to the body. Of course, given that this literature is already complicated by the use of different terms for what appears to be the same construct, it is acknowledged that using yet another term may further complicate rather than clarify matters. It is duly noted that physical aggression can also harm an individual's psyche, however, the more evident harm is delivered to the victim's body in this case. Nonetheless, the literature on non-physical aggression is still really in its infancy, thus this may be the optimal time to put forth ideas regarding labels for this relatively new construct. It is only through addressing the

shortcomings and controversies inherent in this literature that this issue will be resolved, allowing research to advance.

It must be noted that there were only three items representing each type of aggression in this study, and that different results may have been found if the aggression subscales contained more items. Future studies assessing items from all three types of aggression, using all the items employed by the respective sets of researchers, would help resolve the controversy that has surrounded the study of female aggression, in particular, the use of competing terms for what may be the same construct. What has not been included in this study is disdainful facial expressions, which have been used as items of social aggression. As they have been reported to contribute uniquely to negative outcomes beyond other forms of social aggression (Underwood, Galen, & Paquette, 2001a), this form of peer maltreatment should certainly be included in future studies of aggression.

For victimization, the hypothesized 2-Factor (physical and relational) model provided the best fit. This is consistent with previous research, which has found that relational and overt victimization (Crick & Grotpeter, 1996), and indirect and physical victimization (Osterman et al., 1998), are separate constructs.

The second question addressed in this paper was: Do sex differences exist in styles of aggression and victimization, and if so, what is the nature of these differences?

Sex Differences in Aggression

Using simple comparisons of mean peer-ratings, boys were rated as engaging in more physical aggression than girls, and this was consistent across Grades 5 and 6. This finding was consistent with the hypothesis as well as with previous literature (see Block,

1983, for a review). Contrary to the hypothesis, however, no sex differences emerged in either grade for relational aggression. Using multiple regression analyses, sex differences remained for physical aggression, with boys more physically aggressive than girls, and emerged for relational aggression, with girls rated as more relationally aggressive after the level of physical aggression was controlled. This latter finding is consistent with the work of Crick and her colleagues (e.g., Crick et al., 1996; Crick & Grotpeter, 1995), Cairns and his colleagues (e.g., Cairns et al., 1989) and Bjorkqvist and his colleagues (e.g., Bjorkqvist, Lagerspetz, & Kaukiainen, 1992). Galen and Underwood (1997) did not find such sex differences in this age group for social aggression.

Sex Differences in Victimization

As hypothesized, using simple comparisons of means peer-ratings, for boys in both grades, peer-rated physical victimization was higher compared to girls. This finding was consistent with previous research (Crick & Grotpeter, 1996; Ku, 1997; Paquette & Underwood, 1999; Rivers & Smith, 1994). It was hypothesized that girls would experience more relational victimization than boys, though this hypothesis was not supported, as there were no sex differences in relational victimization in either grade. Using multiple regression analyses, boys were more likely than girls to experience physical victimization, only when aggression was not controlled for; thus this finding pertains to victims who may also be aggressors. No sex differences emerged for relational victimization. Previous research examining sex differences in non-physical victimization has produced equivocal findings; in some studies girls have been found to be more likely than boys to be the victims of non-physical aggression (Ku, 1997; Olweus, 1991, 1993a; Rivers & Smith, 1994), and in others, consistent with the present findings,

no sex differences have been found (Crick & Grotpeter, 1996; Paquette & Underwood, 1999).

With the third question, we examined the family and individual factors that were related to aggression and victimization. First, we asked: (How) does family dominance structure predict children's peer dominance status?

Parenting Styles and Dominance

Children's experiences with their caregivers are believed to provide them with a working model of relationships, which influences expectations about future relationships, including those with peers (Bowlby, 1973; Troy & Sroufe, 1987). In this view, a child's position in the dominance hierarchy of the parent(s)-child relationship is internalised and provides a template for the child's relationships with his or her peers. It was predicted that lower parental supervision and either high or low parental involvement (consistent with permissive indulgent or permissive neglectful parenting styles respectively), would be predictive of higher peer-rated dominance, whereas higher supervision and lower involvement, as in authoritarian households, would be predictive of lower dominance ratings. Parenting that is high in both supervision and involvement, as in authoritative parenting styles, were expected to be predictive of dominance scores that fell in the middle range.

Although the dimensions of parenting assessed in the present study can be combined to generate a parenting style designation, this was not done in this study, as cut-off scores were not employed. Whereas high scores on acceptance/involvement and strictness/supervision are characteristic of an authoritative parenting style, for example, parents with this parenting profile are not considered to be "authoritative" in this sample.

Nonetheless, it may be useful to consider patterns of parenting dimensions as *consistent with* certain parenting styles, to parallel the term used in literature on parenting.

The effect of parenting on dominance was different for boys and girls. For girls, consistent with the hypothesis, the lowest dominance ratings were among those living in low involvement/high supervision (as in authoritarian) households. Girls from low involvement/low supervision (as in permissive-neglectful) homes were rated as just above the middle range with respect to dominance, which was lower than was expected. Equally high dominance ratings were found among those living in high involvement/low supervision (as in permissive-indulgent) and high involvement/high supervision (as in authoritative) households, and these two groups had the highest dominance ratings of all groups, male or female. This finding suggests that, for girls, high parental involvement is predictive of higher peer-rated dominance status in the classroom, regardless of the amount of parental supervision. Whereas the findings for girls in low involvement/high supervision (as in authoritarian) and high involvement/low supervision (as in permissive-indulgent) households were consistent with expectations, the finding for high involvement/high supervision (as in authoritative) households was not. The dominance ratings for girls in the latter type of household were expected to be lower than those from permissive (low supervision) households, as the amount of supervision in authoritative households in combination with high involvement has been found to be conducive to prosocial behaviour in children. As dominance in this study was hypothesized to be related to the use of aggression, it was not considered a prosocial characteristic; rather it was meant to reflect a degree of "bossiness", and not leadership, for example, a more

prosocial aspect of dominance. Dominance was more strongly predicted by parental involvement for girls than it was for boys.

As with the girls, the hypothesis that high involvement/high supervision parenting would be predictive of average dominance for boys was not supported. In contrast to the higher than expected dominance ratings for the girls, however, for the boys, high involvement/high supervision parenting was predictive of much lower than expected dominance ratings. The dominance scores of this group were, in fact, the lowest of all the groups, of either sex. Thus, the influence of high involvement/high supervision parenting appears to be markedly different for boys and girls. Girls from homes with this parenting style were more likely to be higher than average in peer-rated dominance, whereas boys from such homes were more likely to be lower than average. With respect to boys from low involvement/high supervision homes, it was hypothesized that their dominance ratings would be lower than average. This hypothesis was not supported; that is, the dominance ratings of boys from these homes were average. Their dominance ratings were not markedly different from those of boys from low involvement/low supervision (as in permissive neglectful) and high involvement/low supervision (as in permissive indulgent homes), which were also in the average range. The dominance ratings of girls from low involvement/low supervision, high involvement/low supervision, and high involvement/high supervision homes were higher than were those of boys from both types of low supervision (permissive) homes.

In summary, the hypothesis that children from low involvement/high supervision homes would be seen by their peers as low in dominance in the classroom was borne out only for girls in this sample. It seems that, for girls but not boys, higher levels of parental

strictness/supervision and lower levels of warmth/involvement translated into their internalising a low dominance or "victim schema." Although sex differences were not hypothesized, some studies of victimized children have reported that the relation of parenting variables to victimization may differ for boys and girls, with harsher parenting conducive to victimization for girls, and close parenting more conducive for boys (Perry et al., 2001). Although harshness and closeness were not among the parenting variables assessed in this study, they might be considered to approximate extremes on the warmth/involvement scale. This may partially explain the low dominance status of boys from authoritative homes, in which the level of both warmth/involvement and strictness/supervision are high. Overprotective parenting has been proposed to especially contribute to victimization for boys, as it impedes the development of agentic competencies that are expected more so for boys than for girls (Finnegan, Hodges, & Perry, 1998).

Children from both types of low supervision (permissive) homes were considered to be at or near the top of the household dominance hierarchy, and were expected to have high dominance ratings in the classroom as well. This hypothesis was supported only for girls; girls from both types of permissive households were peer-rated as higher in dominance, though ratings were especially high for those from high involvement/low supervision homes. Thus, it appears that low levels of supervision may be especially predictive of higher dominance for girls. In general, parents tend to monitor the whereabouts of their daughter more so than their sons, and girls have been found to report higher levels of parental monitoring compared to boys (Carlo et al., 1998; Huston, 1983), thus this interpretation may partially explain the finding. It must be noted again that

parenting style classification is a relative construct in this study. Thus, parents who are viewed as low involvement/high supervision, for example, were more strict and less involved than other parents in this sample, but it is not possible to determine where they would fall in relation to other parents within a different population.

Next, we addressed the question: What are the individual factors related to different types of aggression/victimization?

All analyses predicting aggression and victimization were carried out twice. Physical and relational aggression were strongly correlated with one another, and aggression and victimization were moderately correlated, thus it seemed useful to examine the predictive value of individual factors first without controlling for these highly related variables and again controlling for them in the analyses. The analyses that were performed without controlling for aggression can provide information only about those children who engage predominantly in one type of aggression, but may also engage in the other type, and about victims who are also aggressors. The analyses in which aggression was controlled for allow for the prediction of relational versus physical aggression, and victimization in children who are not aggressive. The term "pure" will be employed to qualify the dependent variables in the latter set of analyses.

Dominance and Aggression and Victimization

As dominance is often established through the use of aggression, children who were more aggressive were expected to be more dominant, and those who were victimized were expected to be less dominant. That is, children with higher peer dominance ratings were expected to be more likely to be involved in aggression - either

physical or relational – with their peers. Those who had lower dominance ratings were expected to be more likely to be rated as experiencing victimization.

Consistent with the hypothesis, higher dominance ratings were predictive of aggression in general for both boys and girls. When "pure" types of aggression were examined, however, sex differences emerged. Contrary to the hypothesis, dominance was not predictive of either "pure" type of aggression for boys. Girls who were purely relationally aggressive were more likely to be higher in dominance, and unexpectedly, girls who were purely physically aggressive were more likely to be lower in dominance. That is, whereas relationally aggressive girls were more dominant, physically aggressive girls were less dominant, unless they also displayed relational aggression. Crick (1997) reported that children who engaged in gender non-normative aggression were significantly more maladjusted than those who engaged in gender normative forms of aggression. While the lower dominance ratings for physically aggressive girls appear to support Crick's findings, no such support was evident for boys who engaged in relational aggression. Thus, it may be that physical aggression is punished when it is enacted by girls, because it represents an unacceptable gender role transgression. Physical aggression may be more strongly associated with "maleness" than relational aggression is with "femaleness", thus boys who act in a relationally aggressive manner may not be breaking the gender norm to the same extent as girls who engage in physical aggression. Certainly, the findings regarding sex differences in aggressive strategies would support this interpretation, as males are clearly more physically aggressive than females; the findings pertaining to sex differences in relational aggression are more equivocal.

Indeed, it is for this reason that researchers have cautioned against calling relational aggression a "female" form of aggression (Underwood et al., 2001a; Bjorkqvist, 2001).

With respect to victimization, as hypothesized, those children who were seen as purely victimized (i.e., controlling for amount of aggression), physically or relationally, were also seen as lower in dominance status. When aggression was not controlled for, relational victimization were predicted by lower dominance for girls and boys, and physical victimization was predicted by lower dominance only for boys. Thus, when boys were physically victimized but were also aggressive, they were more likely to be lower in dominance. When the final multiple regression for physical victimization was run, including all previously significant predictors, the sex X dominance interaction did not retain significance, though there was a significant main effect for dominance; specifically, dominance was negatively predictive of physical victimization for both boys and girls.

Self Variables and Aggression and Victimization

Previous research has suggested that discrepancies between one's actual and one's ought selves should be associated with agitation-related emotions, such as feeling threatened (Higgins, 1987, 1991). Weisbuch (1999) proposed that such discrepancies should be related to the use of aggression. In the present study, it was hypothesized that more negative actual-ought discrepancies for male dominance-related characteristics would be predictive of physical aggression, and negative actual-ought discrepancies for female-dominance-related characteristics would be predictive of relational aggression. Discrepancies between one's actual and one's ideal selves are believed to produce dejection-related emotions, such as sadness and discouragement, emotions that tend to be

associated with victimization. In this sample, more negative actual-ideal discrepancies for male dominance-related characteristics were expected to be predictive of physical victimization, and more negative actual-ideal discrepancies for female-dominance-related characteristics were expected to be predictive of relational victimization.

In summary, children with more negative actual-ought discrepancies for female dominance-related characteristics, that is they felt they should be more popular, good-looking and fashionable than they were, were more likely to be rated by their peers as both physically and relationally aggressive, but not either form of aggression uniquely. It was unexpected that more negative actual-ought discrepancies for female, and not male, dominance-related characteristics would be predictive of both types of aggression. It was also surprising that no sex differences emerged, in that boys' as well as girls' aggression was predicted by female dominance-related characteristics; concerns about appearance, clothes and popularity traditionally belong to the domain of females. It is possible that boys are more concerned with popularity, looks and clothes, than has previously been the case. Certainly, it seems that popular media has placed more of an emphasis on males' appearance than ever before, and it is perhaps understandable that such concerns would be of importance for boys, as it has historically been for girls.

As well, though this finding was not hypothesized, it was interesting that children's general aggression ratings were predicted by the perception that they possess male dominance-related characteristics, that is that they were tough, a good leader, and athletic. These findings pertained only to children who were rated as exhibiting both types of aggression, and were not predictive of either type of aggression uniquely. This finding was unexpected, but indicates that it is those children - male or female - who see

themselves as possessing what may be "agentic" qualities, that are more likely to behave aggressively, regardless of the manner in which the behaviour is manifested. Seeing oneself as possessing these male dominance-related characteristics (i.e., being tough, a good leader, and athletic) could be part and parcel of being an aggressive individual. The self variables that emerged as predictors of physical and relational aggression may be good predictors of aggression in general, but do not seem to provide any information that can help discriminate between the two types of aggression.

Without controlling for aggression, having a more negative actual-ideal discrepancy for male dominance-related characteristics, that is, having an ideal self that is tougher, more athletic, and a better leader than one's actual self, was predictive of physical and relational victimization. This was hypothesized to be the case only for physical victimization. Once aggression was controlled for, this effect was retained for boys and girls who were "pure" victims of relational aggression and only for boys who were "pure" victims of physical aggression. According to the literature on self-discrepancy, negative actual-ideal discrepancies are a precursor to feelings of dejection (Higgins, 1987, 1991). Thus, the hypothesis was that such a discrepancy would be predictive of victimization, which is an experience that has been found to be strongly related to such emotions. In this view, these children do not perceive themselves as tough, athletic or a good leader, and it is the wish to be different than one is that leads to dejection-related emotions, and opens one up to experiences of victimization. Of course, it may also be the case that, because they experience victimization, children wish they had more of the qualities that may allow them to prevent such treatment, that is toughness, athleticism, and leadership qualities. Data from longitudinal studies suggests,

however, that victimization precedes maladjustment (Egan & Perry, 1998; Hodges & Perry, 1999; Kochenderfer & Ladd, 1996; Olweus, 1992), lending support to the former interpretation.

Self-efficacy and outcome expectancy predicting aggression and victimization

It was hypothesized that children would be more likely to be rated as aggressive if they had higher scores on self-efficacy for aggression, as well as outcome expectancies (self-reward and peer approval) for aggression. They were also expected to have lower scores on self-efficacy for conflict and non-conflict situations, as these represent the feeling that one is able to handle situations in an assertive, prosocial manner.

Without controlling for the other type of aggression, as predicted, higher self-efficacy for physical and relational aggression were predictive of physical and relational aggression respectively, for both boys and girls. "Pure" physical aggression, but not "pure" relational aggression was predicted by the self-efficacy for aggression variable. Thus, consistent with previous research (Erdley & Asher, 1996; Perry et al., 1986), those children who felt capable of carrying out physically aggressive acts were more likely to engage in them. It could be that children who have engaged in physically aggressive acts felt more confident in their capacity to engage in physical aggression because they have already done so in the past.

For girls, peer approval for relational aggression was a significant predictor of relational aggression before controlling for physical aggression. The effect was not retained after physical aggression was accounted for, however. Thus, this findings pertains to children who engage in both types of aggression, but more predominantly relational. Because this variable did not attain significance in the prediction of physical

aggression before accounting for relational aggression, however, it does seem to predict relational aggression to some extent, if not uniquely. Due to the nature of relational aggression, which often involves including peers in its enactment (e.g., telling others not to like someone), it would be expected that peer approval would be paramount. As girls tend to be more invested in their group status compared to boys, we would expect them to be more likely to seek out peer approval for their actions. In this sample, girls who perceived high peer approval for relational aggression were much more likely to use relational aggression. Boys, on the other hand, were far less likely to employ relational aggression when they perceived their peers as being approving of such tactics; the more boys thought that their peers would approve of relational aggression, the less they actually used it. Thus, although boys have been found to expect more positive outcomes than girls for aggression (Perry et al., 1986; Perry et al., 1989), the present findings suggest that they are less influenced than girls are by their peers' expected reactions to their aggression, when it is predominantly relational.

With respect to social self-efficacy for conflict situations, it was hypothesized that children who felt less capable of handling conflict situations prosocially would be more likely to use aggressive strategies. As expected, social self-efficacy for conflict situations was negatively predictive of "pure" relational aggression for girls, though was, unexpectedly, positively predictive of "pure" physical aggression for girls. That is, girls who were relationally aggressive felt less capable of handling conflict situations, and those who used physical aggression felt more capable of handling conflict situations. It may be that girls who use physical aggression, and thus have a general sense of "toughness" and a feeling of being able to handle conflict situations. The items in the

self-efficacy for conflict situations sub-scale generally involve asserting oneself verbally in a prosocial manner, rather than physically. The finding regarding "pure" relational aggression was unexpected. The results imply that girls use relationally aggressive strategies when they do not feel capable of handling verbal conflict situations in an effective and prosocial manner. This finding highlights a potential reason for girls' use of relational aggression; it appears that girls who employ this strategy do not possess the skills to handle conflict situations in a direct, assertive manner.

With respect to victimization, it was hypothesized that children who were rated as victimized would have lower self-efficacy, self-reward, and peer approval for aggression, as well as lower self-efficacy for both conflict and non-conflict situations. Self-efficacy for relational aggression was predictive of relational victimization for both sexes, but this held true only when not controlling for amount of aggression. Thus, this findings pertains to victims who may also be aggressors. As hypothesized, girls who were higher in physical victimization, including "pure" physical victimization, had lower self-reward for aggression scores. This finding did not hold true for boys, however. Thus, girls who were victims reported that they would get less satisfaction from engaging in aggression. Contrary to the hypotheses, peer approval for physical and relational aggression were predictive of physical and relational victimization (not controlling for aggression) for girls. For boys, there was only a negative effect for relational victimization. This latter finding was consistent with the hypothesis. Thus, unexpectedly, girls who reported that they felt their peers would find it "cool" if they acted in a physically aggressive manner were more likely to themselves be the victims of physical and relational aggression.

Boys who thought their friends would approve of their relational aggression were less likely to be victims. Perhaps the peer approval variable reflects a "wish fulfilment" in this case, in that girls who were themselves the victims of aggression thought that their friends would be impressed if they acted tough in an aggressive manner. As expected, self-efficacy for non-conflict situations was negatively predictive of "pure" physical and relational victimization for boys and girls. Thus, children who felt less capable of handling non-conflict situations were more likely to experience both types of victimization.

The results regarding the self-efficacy variables must be interpreted with some caution, as in the final multiple regressions that included all previously significant variables, many of the self-efficacy variables did not retain significance. Specifically, self-efficacy for physical aggression was no longer predictive of physical aggression; social self-efficacy for conflict situations was not predictive of relational aggression, self-reward for physical aggression and social self-efficacy for conflict situations were not predictive of physical victimization; and social self-efficacy for non-conflict situations was not predictive of relational victimization. That these variables did not retain significance indicates that they do not predict aggression and victimization independently of the other significant variables.

Social importance as a predictor of aggression and victimization

Social importance for male and female dominance-related characteristics were expected to be predictive of physical and relational aggression as well as victimization. The main findings that emerged from this set of analyses were that, as hypothesized,

"pure" relational aggression was predicted by higher social importance for female dominance-related characteristics, and that, unexpectedly, "pure" physical aggression was predicted by lower social importance for female dominance-related characteristics. Thus, the more children felt it was important that their peers found them good-looking, fashionable, and popular, the more likely they were to engage in relational aggression and the less likely they were to engage in physical aggression. This finding indicates that children of both sexes, when they are concerned about what others think of them with respect to characteristics that have traditionally been related to dominance in girls, are more likely to use a "female-typical" aggressive strategy, perhaps in an attempt to improve their status within the peer group. These children are less likely to employ physically aggressive strategies, perhaps because they place more importance on dominance in the traditionally female sphere, which does not favour the use of physical aggression. One item used to measure female dominance-related characteristics was popularity. It could be that boys and girls who are more concerned about being seen as popular are more "relationship-oriented", and would thus be more likely to employ relationally aggressive strategies to improve their group status. Those who did not care about being seen as popular, in fact who cared less than others, were more likely to use physical aggression, which is a more "agentic" strategy, that is, it does not necessarily make use of the peer group in its enactment, as relational aggression does.

Sex differences did not emerge as expected, however; girls did not place more social importance on female dominance-related characteristics than boys, and boys did not place more social importance on male dominance-related characteristics than girls.

Victimization predicted by aggression

Aggression and victimization were expected to be related in this sample. Based on research by Crick (1997), who reported that girls and boys who engaged in gender non-normative aggression had higher levels of maladjustment compared to those whose aggression was gender normative, it was hypothesized that victimization would be higher for boys who engaged in relational aggression and for girls who engaged in physical aggression. Consistent with the hypothesis, physical aggression was predictive of physical victimization for girls. There was no association between these two variables for boys. As well, physical aggression was predictive of relational victimization for girls but not for boys. In fact, for boys, physical aggression was predictive of lower relational victimization. Girls who were viewed as relationally aggressive were also likely to be physically victimized, whereas boys who were relationally aggressive were actually less likely to be physically victimized. Both boys and girls who exhibited relational aggression were likely to be victims of relational aggression, however. Thus girls who exhibited physical and relational aggression were also the recipients of aggressive acts of both types, whereas for boys, exhibiting physical aggression was not associated with being victimized physically, and was associated with being less relationally victimized. Boys who displayed relational aggression were more likely to be victims of relational aggression, but less likely to be victims of physical aggression.

The prediction of physical and relational victimization from physical aggression ratings for girls lends support to the notion that girls' gender non-normative aggression is associated with maladjustment and peer difficulties (Crick, 1997). It appears that physical aggression for boys is perhaps an accepted norm, but is punished when it is

displayed by girls. Girls who displayed relational aggression were also victimized, thus it may be that aggression in general is censured when it occurs in girls. That lower dominance status was also associated with physical aggression in girls (higher dominance status was associated with the use of relational aggression), suggests that girls who use aggression at all may be at risk for peer victimization, but that girls who use physical aggression are at even greater risk. Relational aggression displayed by boys may be seen as gender non-normative as well, as boys, like girls, who engaged in relational aggression were more likely to be the recipients of relationally aggressive acts, though this form of aggression was not associated with higher physical victimization for boys. In the case of girls who display physical aggression, it seems that the punishment takes the form of physical retaliation as well as being gossiped about and socially excluded. Previous research has shown that girls are less tolerant than are boys to physically aggressive behaviour, in that physically aggressive girls are more likely to be rejected by their peers (Lancelotta & Vaughn, 1989). Of course, it may also be that girls who are victimized react by being aggressors themselves, in order. perhaps to increase what they may feel is their threatened dominance status in the group. The fact that such a sex difference did not emerge for relational aggression again suggests that relational aggression is less strongly associated with one sex in particular, and its enactment by males may not be considered to be as unacceptable a gender role transgression as the enactment of physical aggression by girls. In this study, we did not distinguish between children who were victimized by same-sex versus other-sex peers, thus it is impossible to determine whether girls are being victimized as a form of punishment by other girls, who may view them as deviating from their group norm, or by boys. Previous research, however, has shown that

the majority of aggression in childhood and early adolescence is within-sex (Lagerspetz & Bjorkqvist, 1992; Mynard & Joseph, 2000).

Conclusions

The results of this study indicate that the various terms that have been used to refer to non-physical aggression do not represent separate constructs. In addition, directly aggressive strategies do not appear to be separate from indirect strategies, in that the items measuring these types of aggression did not load on separate factors. Thus, it does not seem useful to continue employing competing terms for what seems to be the same construct. We have proposed the term "psychological" aggression to better represent what has been studied under the names "relational", "indirect", and "social" aggression.

With respect to sex differences in aggressive strategies, the results of this study suggest that girls in Grades 5 and 6 do in fact engage in more indirect, relational, or social aggression than do their male counterparts. Although researchers have cautioned against calling one type of aggression "female" and another type "male", as there is enormous individual variation within-sex, with individuals of both sexes exhibiting both types of aggression (Bjorkqvist, 2001; Underwood et al., 2001a), the present findings suggest that indirect, relational, or social aggression, is the method of choice for girls more so than it is for boys, and thus may be considered to be "female-typical". It is perhaps less connected to the female gender role, however, than physical aggression is to the male gender role, as girls who engaged in physical aggression seemed to receive more punishment, in the form of victimization and low dominance status, for engaging in physical aggression than did boys who engaged in relational aggression.

There were clear differences in the family and individual characteristics of children who were rated by their peers as aggressive versus victimized. Girls who were seen by their peers as dominant tended to perceive their parents as high on involvement, as in permissive-indulgent and authoritative households. Higher dominance in girls was related to relational aggression. Parental supervision is believed to curb children's aggression, though research in this area has been focused on physical aggression, and may not apply to relational aggression. Perhaps girls whose parents are very involved with them learn to place more importance on relationships and thus are more likely to choose relationally aggressive strategies in their peer relationships. Girls who were seen as low in dominance in the classroom tended to come from families with high parental supervision and low involvement, as in authoritarian homes. In contrast to the girls, for boys, high involvement/high supervision parenting (as in authoritative homes) was predictive of low dominance. Boys who were highest in dominance were from homes with high involvement/low supervision parenting (as in permissive-indulgent homes), though their dominance ratings were much lower than were those for girls with the same parenting type, and were still within the middle range of dominance ratings.

Analyses in which the high correlation between the two types of aggression and between aggression and victimization were and were not controlled for revealed some discrepant results, suggesting that children who employ one aggressive strategy uniquely differ from those who employ both types. As well, this indicates that children who are non-aggressive victims are different from those who are aggressive victims. While it was of interest to examine variables that predicted aggression and victimization without controlling for these confounding variables, those analyses can be interpreted only to

predict, for example, physical aggression in children who are also relationally aggressive, or victimization in children who are also aggressive. The analyses in which the confounds were controlled yielded findings that were more central to the question of why children are involved in one type of aggression versus another.

Dominance status was negatively predictive of physical and relational victimization and positively predictive of "pure" relational aggression and negatively predictive of "pure" physical aggression for girls. Peers gave higher dominance ratings to girls who were relationally aggressive and lower dominance ratings to girls who were "purely" physically aggressive. Dominance in boys did not seem to be associated with the amount or type of aggression they displayed, and dominant girls were those that acted relationally aggressive. Feeling that one is tough, athletic, and a good leader, and feeling one ought to be more good-looking, fashionable, and popular were predictive of aggression in general, but did not provide unique information about the prediction of physical versus relational aggression. For boys, "pure" physical victimization was predicted by feeling one would ideally be more tough, athletic, and a better leader.

With respect to the self-efficacy variables, two interesting findings emerged. First, peer approval for relational aggression, not controlling for physical aggression, was predictive of relational aggression for girls, but not for boys. This suggests that girls, more so than boys, are likely to be influenced by the expected approval of the peer group for their aggressive acts. This finding is consistent with girls' generally greater focus on peer group acceptance. Second, self-efficacy for conflict situations was negatively predictive of "pure" relational aggression, but was positively predictive of "pure" physical aggression for girls. This finding suggests that girls use relational aggression

when they do not feel able to handle conflict situations in a more direct, effective manner. Clear differences emerged regarding the prediction of physical versus relational aggression by social importance for female dominance-related characteristics. The more children cared that their peers thought they possessed these characteristics, the more likely they were to engage in relational aggression, and the less likely they were to engage in physical aggression.

That the above variables retained significance in the analyses after the effect of sex was accounted for suggests that biological sex does not uniquely predict a child's involvement in physical versus relational aggression. While clear sex differences emerged, with boys more physically and girls more relationally aggressive after level of physical aggression was controlled for, these findings seem to represent group trends, and provide only a partial answer to question of why children choose one form of aggression over another. A major goal of this paper was to address the question of why children might engage in one form of aggression versus another. The bulk of the research to date has focused on biological sex as the factor which determines a child's involvement in relational versus physical aggression. The results of this paper suggest that biological sex does explain a significant portion of the variance in type of aggression, but that it does not fully answer the above question.

With respect to the question of why girls and boys may engage in different aggressive strategies, the present findings indicate that girls are more likely to engage in relational versus physical aggression for several reasons. First, the use of physical aggression in girls is related to decreased, whereas the use of relational aggression is related to increased peer dominance status, thus it seems that relationally aggressive

strategies serve to maintain or increase girls' status within their peer group; they may avoid physical aggression because it would run counter to their social goals. Second, when girls use physical aggression, they are more likely to be victimized, further emphasizing the unacceptability of such behaviour. This was not the case for boys, for whom aggression did not seem to be punished in the same way. Both girls and boys who seemed to be more concerned with "female" social goals, that is appearance, clothes, and perhaps most importantly, popularity, were more likely to engage in relational forms of aggression. These children may place more importance on relationships than do those who do not use relationally aggressive strategies. This finding lends some support to the hypothesis put forth by Crick and Grotpeter (1995), which stated that girls and boys are likely to aggress against each other in ways that best damage the social goals valued by the respective gender group. It was interesting that children of both sexes use relational strategies when they value characteristics that are considered to be important to girls' peer groups. Girls in particular were more likely to use relational aggression when they expected their peers to approve of it, presenting another reason that may underlie girls' greater use of relationally aggressive strategies. In short, it seems that children who care what others think of them, and who would like to possess more female dominance-related characteristics, including being more popular, are more likely to behave in a relationally aggressive manner. For girls, this strategy may be especially conducive to their achievement of social goals, as it predicts peer group dominance. This latter finding certainly lends support to the notion presented here that aggression is better viewed as an attempt to maintain or increase one's dominance status.

Limitations and Future Directions

Although we found that no differences exist in indirect, relational, and social aggression, or between indirect and direct aggression, this finding must be interpreted with some caution, as there are some shortcomings in the manner in which this conclusion was arrived at. The present study has certainly succeeded in demonstrating that this controversial issue requires further investigation. Future studies could address this controversy by employing a peer estimation measure which includes all aggression items from existing indirect, relational, and social aggression measures. The drawback of such a study is that participants would be faced with the task of rating their peers on a large number of negative items. In the present study, the number of items was limited to some extent out of the concern that including more items of aggression and victimization would cause children to focus on the negative characteristics of their classmates, which was believed to be potentially detrimental to their peer relations. Limiting the number of aggression and victimization items not only means that the measure may not have fully captured the full spectrum of aggressive behaviours, but also that each aggression and victimization scale contained only three items. before they were combined across the direct/indirect dimension. Some authors have cautioned against the use of scales that contain fewer than four items (e.g., Endler & Parker, 1990). If the scales had contained a larger number of items, it is possible that indirect and direct aggression would have emerged as clearly separate factors.

Additionally, although the items chosen to measure aggression and victimization were meant to be representative of items of indirect, relational, and social aggression, the decision was somewhat arbitrary, and certain items were not included simply because others seemed more representative of the particular type of aggression. For instance,

disdainful facial expressions were not included in this study; had items pertaining to this aggressive behaviour been included, the results may have differed, as Underwood et al. (2001a) have concluded that these behaviours actually load on a separate factor than other social aggression items. It is certainly possible that if items other than the ones chosen had been used, the results of the confirmatory factor analysis would have yielded differences between direct and indirect relational and physical aggression.

A further limitation of this study is that the occurrence of aggression in this sample may have been low relative to what may have been found in an older sample of children or among children from less advantaged homes. Findings have been equivocal with respect to the age at which indirect, relational, or social aggression peaks. For instance, Cairns and his colleagues have reported that incidents of social aggression were more common among both boys and girls in Grade 7 than in Grade 4 (Cairns et al., 1989; Xie & Cairns, 1999), and Galen and Underwood (1997) found an increase in social aggression for girls between Grades 4 and 10. The participants in the present sample were in Grades 5 and 6; employing a sample of Junior High students may have yielded different results, as the incidence of indirect, relational, or social aggression may have been greater. Moreover, the participants of this study were generally from schools located in middle to upper- middle class suburban areas. Low socio-economic status has been found to be related to increased childhood aggression as well as harsher parenting, thus higher ratings on these variables might have been more common in a less economically advantaged sample, and different findings may have emerged.

This paper suggests that biological sex per se does not fully explain sex differences in aggressive strategies, though it certainly is responsible for a large portion

of the variance. The importance placed on others believing one possesses female dominance-related characteristics emerged as the only factor that distinctly predicted relational versus physical aggression for both boys and girls. This finding suggests that placing more emphasis on one's acceptance in the peer group is at the heart of relational aggression, whether it is enacted by boys or girls. Future studies could further explore this interesting finding, perhaps examining the individual characteristics of children that predisposes them to place importance on what others think of them.

Implications

The results of this study lend support to the notion that there may exist no differences among the constructs being studied under the competing terms, "indirect aggression", used by Bjorkqvist and his research group, "relational aggression", used by Crick and her group, and "social aggression", used by Cairns and his colleagues as well as by Galen and Underwood. Research progress in the area of non-physical aggression has doubtlessly been impeded by the fact that different groups of researchers have employed different names for what appears to be the same construct, using a few different, but mainly overlapping items. Although the confusion and controversy surrounding what Bjorkqvist (2001) has called, "different names, same issue" will not be completely clarified with the results of this study, the findings reported here certainly add to the body of knowledge in this relatively new area of study, and provide impetus and direction for future research.

Although hypotheses have been put forth to explain why girls and boys engage in different types of aggression, to date there have been no published empirical investigations aimed at understanding these sex differences. The present study adds

significantly to that body of literature by elucidating some of the characteristics and possible motivations of children who engage in relational versus physical aggression.

With respect to applied implications of the present study, in a recent article outlining the current state of research on aggression, Underwood and her colleagues (Underwood et al., 2001) state that, if we seek to reduce aggression and its harmful effects, we must first understand the function of the different types of aggression. This study has served the above purpose to some extent, or at least provided some answers that will add to the current knowledge on the function of types of aggression, which can, in turn, inform decisions regarding interventions designed to reduce aggression among school children. That girls seem to employ relational aggression when they do not feel capable of handling conflict situations in a more prosocial manner points to a potential target for intervention. Interventions aimed at training girls to respond assertively to conflicts may serve to reduce relational aggression.

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APPENDIX A

Parent Letter and Consent Form

March 10, 1999

Dear Parent(s),

I am a professor at Concordia University where I teach courses and conduct research on children's and adolescents' relationships at school. Along with one of my Ph.D. students (Ms. Nancy Bartlett), I am conducting a study on friendships as well as bullying and victimization among children and young adolescents. We are writing to tell you about this study and to ask your permission for your child to participate in it.

As part of the study we are conducting, we will meet with the participating children in their classrooms for approximately one hour twice this school term. The children will be asked to complete some questionnaires that will give us information about themselves and their relationships with others in their class. The only information about their home life will be a questionnaire about supportiveness and strictness at home.

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 this and find it interesting. 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. 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, s/he does not have to. In addition, you should know that participating in this study does not obligate you to participate in any other studies we are conducting.

If you have any questions about this study, I would be glad to speak with you. You can 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 give it to your child to return to his/her teacher. Thank-you for your help and cooperation,

Sincerely,

William M. Bukowski
Associate Professor

Nancy Bartlett, M.A.
Ph.D. Candidate

CONCORDIA UNIVERSITY STUDY ON PEER RELATIONS

Dr. Bukowski and Ms. Bartlett have described the purposes and procedures of the research study on bullying and victimization that they would like to conduct with fifth and sixth grade students.

I understand that the children who participate in Dr. Bukowski and Ms. Bartlett's study will be asked to complete some questionnaires during class time this school term.

I understand that it will take about one hour each time for the participant to complete these tasks.

I know that there will be no direct benefits to my child as a result of having participated in this study, and Dr. Bukowski and Ms. Bartlett have told me that there are no risks except those that children already encounter in their daily lives.

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.

I understand that my child's responses will be confidential, and that no identifying information will be given in results of this research.

I know that my child's participation in this study does not obligate him/her or anyone else in the family to participate in any other studies.

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)_____.

APPENDIX B

Peer- and Self-Rating Measure of Aggression, Victimization, and Dominance

Describe your Class

TELL US ABOUT THE STUDENTS IN YOUR CLASS

Read the description on the following pages. Then for each description, tell us how much the people in your class, including yourself, fir the description.

3 = a lot like the person *2 = sort of like the person* *1 = not at all like the person*	Name #1	Name #2	Name #3	Name #4	Name #5
1. Someone who is kind to other people almost all of the time	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
2 Someone who hits other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
3. Someone who says bad things behind other people's backs.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
4. Someone who gets hit or kicked by other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
5. Someone who is often a leader.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
6. Someone who writes or passes around nasty notes about other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
7. Someone who throws something at a kid they don't like, then looks around as if nothing happened.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
8. Someone who purposely keeps others out of their group.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
9. Someone who is helpful to other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
10. Someone who gets ignored or left out of things when someone is mad at them.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
11. Someone who tried to get others not to like a person.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
12. Someone who does things for him or herself rather than asking for help.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
13. Someone who kicks other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
14. Someone who gets nasty notes written about them	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③

3 = a lot like the person *2 = sort of like the person* *1 = not at all like the person*	Name #1	Name #2	Name #3	Name #4	Name #5
15. Someone who other kids usually follow.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
16. Someone who sticks out their foot to trip another kid, then acts innocent.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
17. Someone who ignores someone (gives them the silent treatment) when they're mad at them.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
18. Someone who never gets pushed around by other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
19. Someone who people go to when they need someone to talk to.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
20. Someone who tells friends they'll stop liking them unless they do what they want.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
21. Someone who gets pushed or shoved by other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
22. Someone who other kids say mean things about behind their back.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
23. Someone who pushes or shoves other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
24. Someone who always gets their own way.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
25. Someone who puts something on someone's chair so that they will sit on it.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
26. Someone who gets beaten up by other kids.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③
27. Someone who always keeps going when things get tough.	① ② ③	① ② ③	① ② ③	① ② ③	① ② ③

Direct Physical Aggression items: 2, 13, 23
Indirect Physical Aggression items: 7, 16, 25
Direct Relational Aggression items: 8, 17, 20
Indirect Relational Aggression items: 3, 6, 11
Physical Victimization items: 4, 21, 26
Relational Victimization items: 10, 14, 22
Dominance items: 5, 15, 24

APPENDIX C

Parenting Styles Questionnaire

You and Your Family

For the following questions, make an "X" in the box that best describes how things are for you...

1. How well do the following statements describe your father (or step-father/male guardian)?

	Never like him 1	Usually not like him 2	Sometimes like him 3	Usually like him 4	Always like him 5
I can count on him to help me out if I have some kind of problem.	❑	❑	❑	❑	❑
He pushes me to do my best in whatever I do.	❑	❑	❑	❑	❑
He pushes me to come up with my own opinion on things.	❑	❑	❑	❑	❑
He encourages me to make my own decisions about certain things.	❑	❑	❑	❑	❑
He helps me with my school work if there is something I don't understand.	❑	❑	❑	❑	❑
When he wants me to do something, he explains why.	❑	❑	❑	❑	❑

2. How well do the following statements describe your mother (or step-mother/female guardian)?

	Never like her 1	Usually not like her 2	Sometimes like her 3	Usually like her 4	Always like her 5
I can count on her to help me out if I have some kind of problem	❑	❑	❑	❑	❑
She pushes me to do my best in whatever I do.	❑	❑	❑	❑	❑
She pushes me to come up with my own opinion on things.	❑	❑	❑	❑	❑
She encourages me to make my own decisions about certain things.	❑	❑	❑	❑	❑
She helps me with my school work if there is something I don't understand.	❑	❑	❑	❑	❑
When she wants me to do something, she explains why.	❑	❑	❑	❑	❑

3. When you get a poor grade in school, how often do your parents/guardians encourage you to try harder?

❑ Usually ❑ Sometimes ❑ Never

---

4. When you get a good grade in school, how often do your parents/guardians praise you or tell you you've done a good job?

❑ Usually ❑ Sometimes ❑ Never

---

5. How much do your parents really know who your friends are?

❑ They don't know ❑ They know a little ❑ They know a lot

---

6. How often do these things happen in your family?

a. My parents spend time just talking to me.

❑ Almost every day
❑ A few times a week
❑ A few times a month
❑ Almost never

b. My family does something fun together.

❑ Almost every day
❑ A few times a week
❑ A few times a month
❑ Almost never

---

7. In a typical week, what is the latest you can stay out...

a. ...on school nights (Monday to Thursday)?

❑ Not allowed out ❑ 10:00 to 10:59
❑ Before 8:00 ❑ 11:00 or later
❑ 8:00 to 8:59 ❑ As late as I want
❑ 9:00 to 9:59

b. ... on Friday or Saturday night?

❑ Not allowed out ❑ 10:00 to 10:59
❑ Before 8:00 ❑ 11:00 or later
❑ 8:00 to 8:59 ❑ As late as I want
❑ 9:00 to 9:59

---

8. My parents know where I am most afternoons after school.

❑ Yes ❑ No

---

9. How much do your parents TRY to know...

a. ... where you are after school
❑ They don't try
❑ They try a little
❑ They try a lot

b. ... what you do with your free time?
❑ They don't try
❑ They try a little
❑ They try a lot

c. ...where you go at night?
❑ They don't try
❑ They try a little
❑ They try a lot

---

10. How much do your parents REALLY know...
a. ... where you are after school
❑ They don't know
❑ They know a little
❑ They know a lot

b. ... what you do with your free time?
❑ They don't know
❑ They know a little
❑ They know a lot

c. ...where you go at night?
❑ They don't know
❑ They know a little
❑ They know a lot

Acceptance/Involvement items: 1, 2, 3, 4, 5, 6a, 6b
Strictness/Supervision items: 7a, 7b, 8, 9a, 9b, 9c, 10a, 10b, 10c

APPENDIX D
Self-Discrepancy Questionnaire

About You

✦ Please tell us how much each of these words describes you:
Make an "X" in the box that describes how you feel

	Not like me at all 1	A little like me 2	Sort of like me 3	Quite a lot like me 4	Exactly like me 5
Good-looking	❑	❑	❑	❑	❑
Athletic	❑	❑	❑	❑	❑
Fashionable	❑	❑	❑	❑	❑
A good leader	❑	❑	❑	❑	❑
Popular	❑	❑	❑	❑	❑
Tough	❑	❑	❑	❑	❑

✦ Sometimes we would like to be different than we are. In your ideal world, how much would each of these words describe you:

	Not like me at all 1	A little like me 2	Sort of like me 3	Quite a lot like me 4	Exactly like me 5
Good-looking	❑	❑	❑	❑	❑
Athletic	❑	❑	❑	❑	❑
Fashionable	❑	❑	❑	❑	❑
A good leader	❑	❑	❑	❑	❑
Popular	❑	❑	❑	❑	❑
Tough	❑	❑	❑	❑	❑

✦ Sometimes we feel we should be different in certain ways. How much does each of these words describe how you think you should be:

	Not like me at all 1	A little like me 2	Sort of like me 3	Quite a lot like me 4	Exactly like me 5
Good-looking	❑	❑	❑	❑	❑
Athletic	❑	❑	❑	❑	❑
Fashionable	❑	❑	❑	❑	❑
A good leader	❑	❑	❑	❑	❑
Popular	❑	❑	❑	❑	❑
Tough	❑	❑	❑	❑	❑

APPENDIX E

Self-Efficacy Questionnaire

You and Other Kids

We would like you to read the following statements and tell us how easy or hard it would be for do the things we are asking about.

	Very hard 1	Sort of hard 2	Pretty Easy 3	Very easy 4
1. Some kids want to play a game. Asking them is you can play is...	❑	❑	❑	❑
2. Some kids are arguing about how to play a game. Explaining the rules is...	❑	❑	❑	❑
3. A kid gets in your way when you're trying to leave school. Shoving the kid out of the way is...	❑	❑	❑	❑
4. Some kids are teasing your friend. Telling them to stop is...	❑	❑	❑	❑
5. You want to play a game. Asking other kids to play is...	❑	❑	❑	❑
6. Some kids are fighting on the playground. You are caught in the middle. Fighting is...	❑	❑	❑	❑
7. A kid tries to take your turn during a game. Telling the kid it's your turn is...	❑	❑	❑	❑
8. Some kids are going to lunch. Asking if you can sit with them is...	❑	❑	❑	❑
9. Getting on the bus for a field trip, a kid bumps into you really hard. Kicking the kid is...	❑	❑	❑	❑
10. A kid cuts in front of you in line. Telling the kid not to cut in is...	❑	❑	❑	❑
11. A kid wants to do something that will get you into trouble. Asking the kid not to do it is...	❑	❑	❑	❑
12. You are having a party, and there is someone you do not want to invite because you're mad at them. Going up to the person and telling that you're having a party and they're not invited is...	❑	❑	❑	❑
13. Some kids are making fun of someone in your class. Telling them to stop is...	❑	❑	❑	❑
14. Some kids need more people to be on their teams. Asking to be on a team is...	❑	❑	❑	❑
15. You have to carry some things home after school. Asking another kid to help is...	❑	❑	❑	❑
16. One of your friends has done something that made you really mad. Ignoring them for a whole day is...	❑	❑	❑	❑
17. A kid always wants to be first when you play a game. Telling the kid you're going first is...	❑	❑	❑	❑
18. Your class is going on a trip and everyone needs a partner. Asking someone to be your partner is...	❑	❑	❑	❑

	Very hard 1	Sort of hard 2	Pretty Easy 3	Very easy 4
20. You want someone to do something. Saying to them, "I won't be your friend unless you do what I say" is...	❑	❑	❑	❑
21. Some kids are deciding what game to play. Telling about a game you like is..	❑	❑	❑	❑
22. You are having fun playing a game, but the other kids want to stop. Asking them to finish playing is...	❑	❑	❑	❑
23. You don't like someone in your class. Telling other people not to like the person is...	❑	❑	❑	❑
24. You are working on a project. Asking another kid to help is...	❑	❑	❑	❑
25. Some kids are using your play area. Asking them to move is...	❑	❑	❑	❑
26. Some kids are deciding what to do after school. Telling them what you want to do is...	❑	❑	❑	❑
27. There is someone in your class who really bugs you. Talking about that person behind their back is...	❑	❑	❑	❑
28. A group of kids wants to play a game that you don't like. Asking them to play a game that you like is...	❑	❑	❑	❑
29. Some kids are planning a party. Asking them to invite your friend is...	❑	❑	❑	❑
30. A kid is yelling at you. Telling the kid to stop it is...	❑	❑	❑	❑
31. There is someone in your class you don't like. Writing a nasty note about the person and passing it around is...	❑	❑	❑	❑

Non-conflict items: 1, 5, 8, 14, 15, 18, 21, 24, 26, 29

Conflict items: 2, 4, 7, 10, 11, 13, 17, 19, 22, 25, 28, 30

Direct Physical Aggression items: 3, 6, 9

Direct Relational Aggression items: 12, 16, 20

Indirect Relational Aggression items: 23, 27, 31

APPENDIX F

Outcome Expectancies Questionnaire

Imagine This

✦ Read the following stories and imagine that they are happening to you. After you read each story, answer the questions that come after.

1.At recess, another kid is using a piece of equipment that you wanted to use. You go over to the kid and shove them out of the way so that you can use the equipment.

a. Do you think this will make you feel like a big shot?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

b. Do you think the other kids on the playground will think you're a big shot?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

2. Your teacher is splitting up the class for group projects. You and a friend want to be in the same group but aren't. You ask someone from your friend's group to switch with you, but they say no. You get even with the kid by telling everyone in your group not to like them.

a. Do you think this would make you feel better?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

b. Do you think the other people in your group would think you did the right thing?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

3. You are standing with a group of your friends when someone you don't like comes along. Just as they are passing you, you stick out your foot to trip them, then you look away as if you didn't do anything.

a. Do you think this would make you feel cool?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

b. Do you think your friends would think you're cool?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

4. You had a fight with one of your friends yesterday and they to talk to you so that you can make up. You completely ignore the friend and pretend they do not exist.

a. Do you think this would make you feel good?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

9. A kid you don't like did something really stupid at recess. You go to your friends and tell them what the kid did so you can all have a good laugh about it.

a. Do you think this would make you feel cool?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

b. Do you think your friends will think you're cool?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

10. A kid that you don't like is wearing something that you think is really ugly. You write a note saying how bad the kid looks and pass it around.

a. Do you think this will make you feel good?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

b. Do you think your friends would think it was a good thing to do?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

11. A certain kid in your class keeps answering all the questions the teacher asks and you aren't getting a chance to answer anything. When the teacher is not looking you throw something at the other kid and hit them in the back of the head. When the kid turns around, you have an innocent look on your face.

a. Do you think this would make you feel cool?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

b. Do you think your friends would think you are funny?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

12. Someone in your class has a free ticket to a concert that you really want to see, and is trying to decide who to give it to. You go up to the kid and say "I won't be your friend if you don't let me have the ticket".

a. Do you think this will make you feel good?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

b. Do you think your friends would think you are cool?
❑ No ❑ Probably Not ❑ Maybe ❑ Probably ❑ Yes

Direct physical aggression items: 1, 6, 8
Indirect physical aggression items: 3, 5. 11
Direct relational aggression items: 4, 7, 12
Indirect relational aggression items: 2, 9, 10

APPENDIX G

Social Importance Items

How important is it for you that other people in your class think you are:

	Not at all important 1	A little important 2	Sort of important 3	Quite important 4	Extremely important 5
Good-looking	❑	❑	❑	❑	❑
Athletic	❑	❑	❑	❑	❑
Fashionable	❑	❑	❑	❑	❑
A good leader	❑	❑	❑	❑	❑
Popular	❑	❑	❑	❑	❑
Tough	❑	❑	❑	❑	❑

APPENDIX H

Teacher and Principal Consent Forms

TEACHER CONSENT FORM
CONCORDIA UNIVERSITY PEER RELATIONS STUDY

Please read and sign the following:

Ms. Bartlett has discussed with me the purpose of this study.

I understand that it will take about one hour each time for the children to complete these questionnaires.

I know that there will be no direct benefits to the children in my class as a result of having participated in this study, and that there are no risks except those that children already encounter in their daily lives.

I know that participation is voluntary and that even if I consent to have my class participate, I can withdraw that decision at any time.

I understand that my students' responses will be confidential, and that no identifying information will be given in results of this research.

I understand that the children who participate in Ms. Bartlett's have the right to withdraw their consent at any time, with no repercussions.

I know that my students' participation in this study does not obligate me or anyone else in my school to participate in any other studies.

Please sign and print your name here:

(Sign) _____ Date:_____.

(Print)_____.

PRINCIPAL CONSENT FORM

CONCORDIA UNIVERSITY PEER RELATIONS STUDY

Please read and sign the following:

Ms. Bartlett has discussed with me the purpose of this study.

I understand that it will take about one hour each time for the children to complete these questionnaires.

I know that there will be no direct benefits to the children in my school as a result of having participated in this study, and that there are no risks except those that children already encounter in their daily lives.

I know that participation is voluntary and that even if I consent to have my school participate, I can withdraw that decision at any time.

I understand that my students' responses will be confidential, and that no identifying information will be given in results of this research.

I understand that the children who participate in Ms. Bartlett's have the right to withdraw their consent at any time, with no repercussions.

I know that my students' participation in this study does not obligate me or anyone else in my school to participate in any other studies.

Please sign and print your name here:

(Sign) _____ Date:_____.

(Print)_____.

APPENDIX I

Student Consent Form

CONCORDIA UNIVERSITY STUDY

STUDENT CONSENT FORM - MAY 1999

School: _____ Teacher: _____

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. Bukowski and Ms. Bartlett are conducting about peer relationships.

I understand that if I agree to participate in the study I will be asked to fill in some questionnaires about myself and the others in my class.

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, Ms. Bartlett, and their assistants will know what I say on the questionnaires.

Sign your name: _____ Date:

Print your name: _____

APPENDIX J

Confirmatory Factor Analyses for Aggression and Victimization

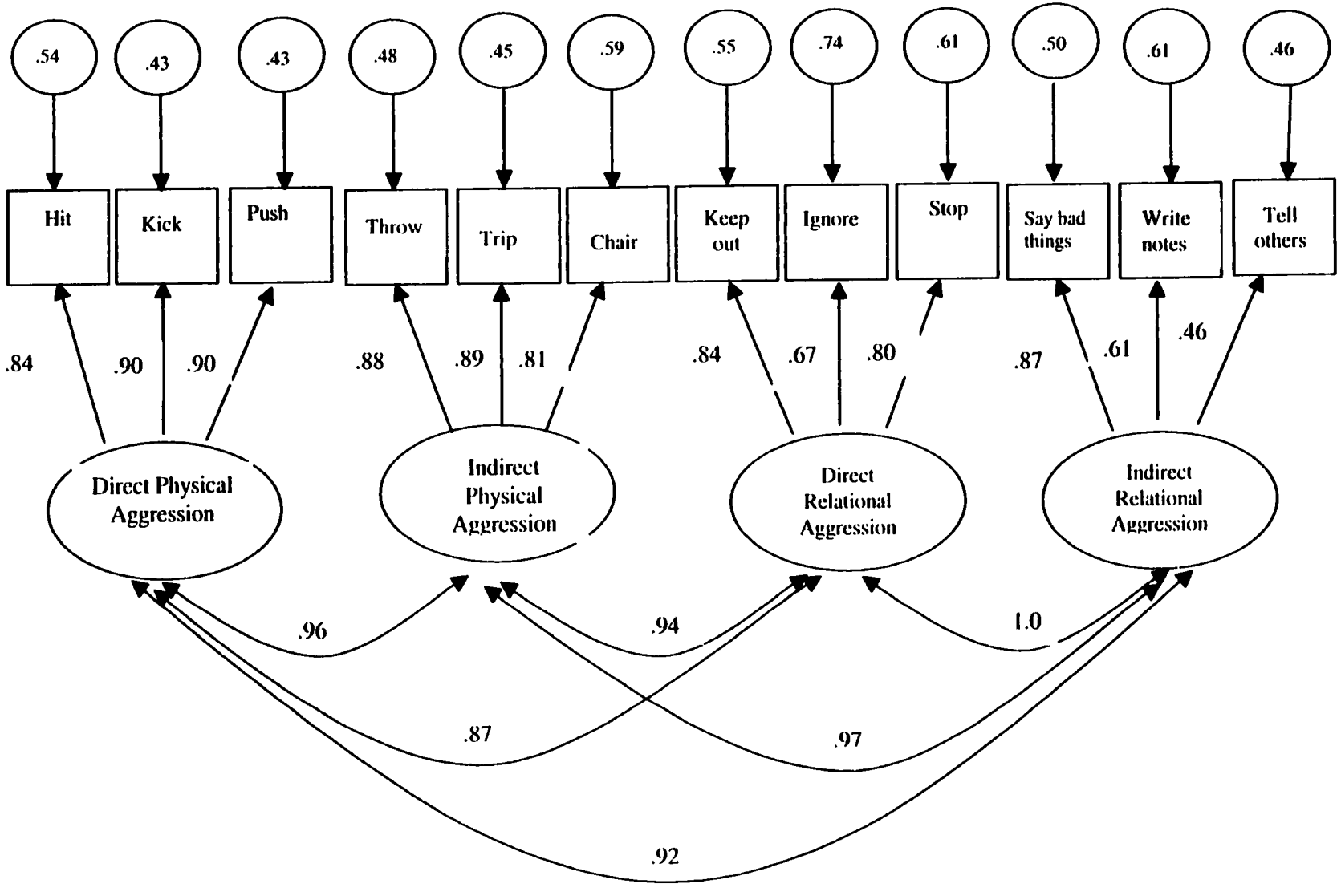

Figure J1. 4-Factor Model of Aggression

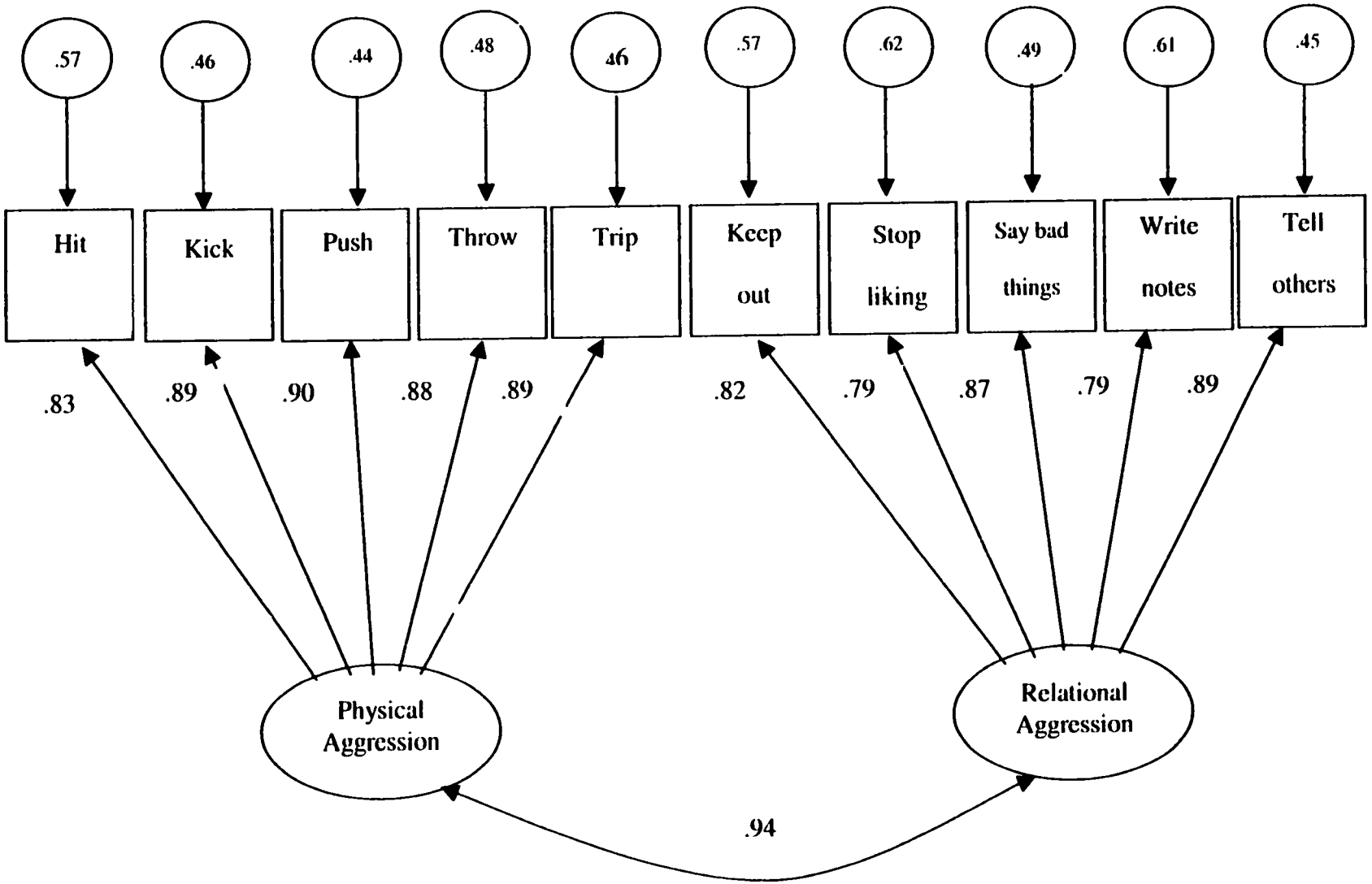

Figure J2. 2-Factor Model of Aggression

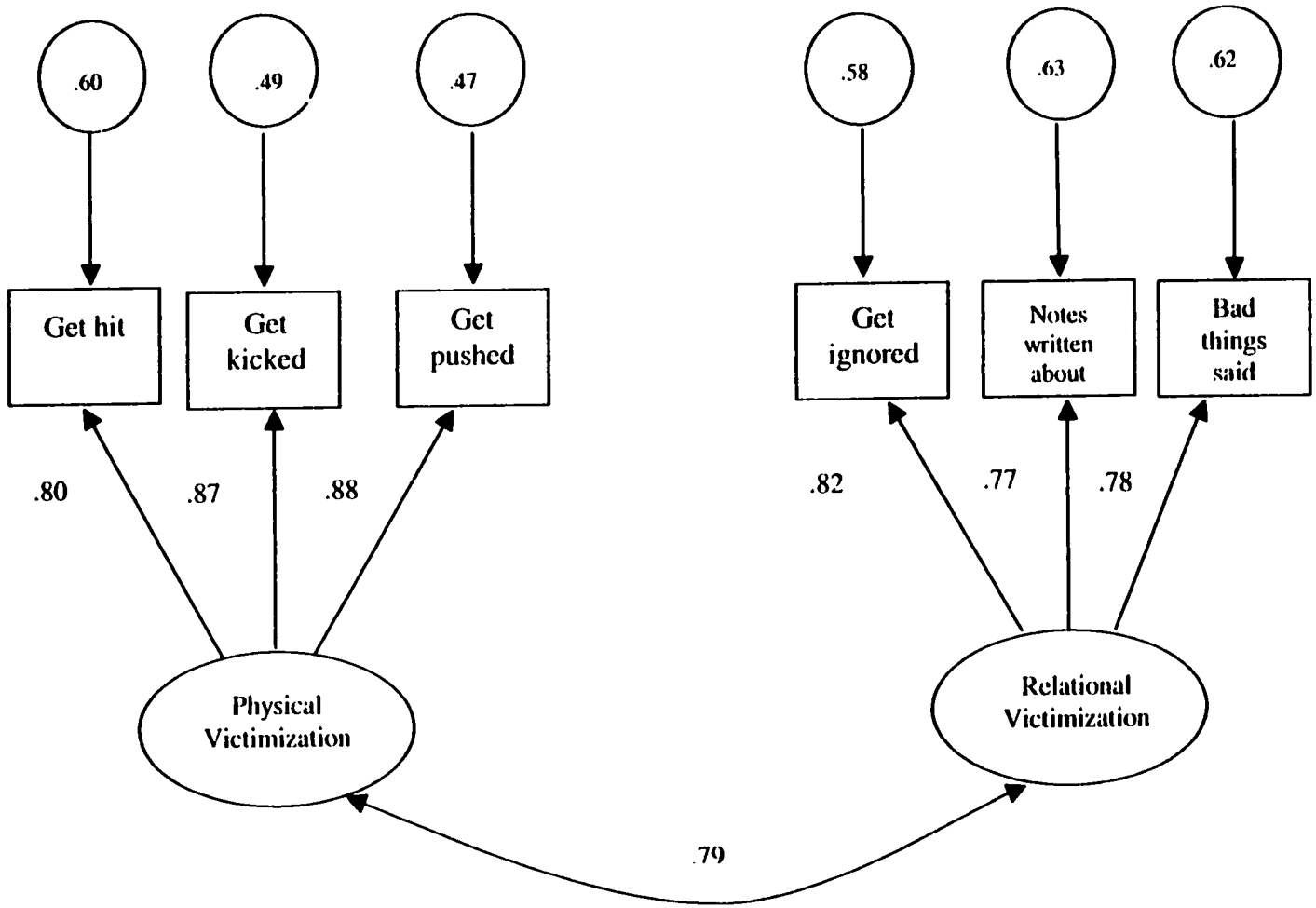

Figure 3. 2-Factor Model of Victimization

APPENDIX K

Correlations among Predictor Variables

	Dominance	Parental Supervision	Parental Involvement	Actual Self-Female	Actual Self - Male	Act/Ideal Disc-Female	Act/Ideal Disc-Male	Act/Ought Disc-Female	Act/Ought Disc-Male	Self-Efficacy Rel Agg	Self-Efficacy Phys Agg	Self-Efficacy Conflict
Dominance	—	-.05	.10	.37***	.37***	.18**	.28***	.19***	.21***	.12*	.12*	.16**
Parental Supervision	—	—	.22***	-.01	.03	.13	.02	.11	.14*	-.12*	-.15**	-.01
Parental Involvement	—	—	—	.33***	.24***	.27***	.19**	.24***	.21***	.08	-.03	.18***
Actual Self-Female	—	—	—	—	.58***	.58***	.43***	.50***	.34***	.13*	.11*	.33***
Actual Self - Male	—	—	—	—	—	.28***	.66***	.24***	.51***	.15**	.24***	.33***
Act/Ideal Disc-Female	—	—	—	—	—	—	.52***	.51***	.20**	.01	-.10	.05
Act/Ideal Disc- Male	—	—	—	—	—	—	—	.25***	.51***	-.02	-.05	.15*
Act/Ought Disc-Female	—	—	—	—	—	—	—	—	.67***	-.02	.00	.13*
Act/Ought Disc- Male	—	—	—	—	—	—	—	—	—	—	—	.20***
Self-Efficacy Rel Agg	—	—	—	—	—	—	—	—	—	—	—	.16**
Self-Efficacy Phys Agg	—	—	—	—	—	—	—	—	—	—	—	.23***
Self-Efficacy Conflict	—	—	—	—	—	—	—	—	—	—	—	—
Self-Efficacy Non-Conflict	.20***	-.06	.22***	.35***	.30***	.13	.16*	.12*	.14**	.13**	.15**	.70***
Peer Approval Phys Agg	.07	-.29***	-.18***	.04	.11*	-.07	-.04	-.03	-.04	.27***	.34***	.05

	Dominance	Parental Supervision	Parental Involvement	Actual Self-Female	Actual Self-Male	Act/Ideal Disc-Female	Act/Ideal Disc-Male	Act/Ought Disc-Female	Act/Ought Disc-Male	Self-Efficacy Rel Agg	Self-Efficacy Phys Agg	Self-Efficacy Conflict
Peer Approval Rel Agg	.06	-.25***	-.14**	-.02	.05	-.07	-.09	.01	-.01	.31***	.24***	-.01
Self-Reward Phys Agg	.09	-.32***	-.15**	.09	.09	-.09	-.13*	-.04	-.05	.36***	.39***	.09
Self-Reward Rel Agg	.12*	-.31***	-.15**	.05	.05	-.14*	-.16*	-.03	-.03	.42***	.33***	.09
Social Imp – Female	.14**	-.08	.06	.44***	.29***	-.02	.14*	-.09	-.04	.15**	.09	.16**
Social Imp – Male	.09	-.02	.08	.29***	.48***	.05	.09	-.15**	-.05	.18***	.18***	.13*

	Self-Efficacy Non-Conflict	Peer Approval Phys Agg	Peer Approval Rel Agg	Self-Reward Phys Agg	Self-Reward Rel Agg	Social Imp – Female	Social Imp – Male
Peer Approval Rel Agg	.04	.79***	—	—	—	—	—
Self-Reward Phys Agg	.11*	.75***	.63***	—	—	—	—
Self-Reward Rel Agg	.10*	.65***	.74***	.78***	—	—	—
Social Imp – Female	.13*	.20***	.16**	.18***	.16**	—	—
Social Imp – Male	.10	.12*	.07	.11*	.08	.63***	—

APPENDIX L

Multiple Regression Analyses Predicting Aggression and Victimization, without Controlling for Aggression

Dominance Predicting Aggression and Victimization

Physical aggression. As shown in Table L1, for the regression predicting physical aggression, the first (sex, age), $R^2 = .15$, F (2, 363) = 32.56, $p = .00$, second (dominance), $R^2 \Delta = .11$, $F \Delta$ (3, 362) = 56.31, $p = .00$, and third (sex X dominance), $R^2 \Delta = .01$, $F \Delta$ (4, 361) = 6.92, $p = .01$, steps were significant. To explain the significant sex X dominance interaction, regression lines for boys and girls were graphed (see Figure L1). Dominance ratings for both boys and girls were predictive of physical aggression ratings, though the regression line was steeper for boys than for girls. This difference indicates that the effect of dominance on level of physical aggression is stronger for boys compared with girls.

Relational Aggression. As shown in Table L2 for the regression predicting relational aggression, only the second step (dominance), $R^2 \Delta = .19$, $F \Delta$ (3, 362) = 88.17, $p = .00$, was significant, indicating that dominance ratings were predictive of relational aggression equally for both sexes.

Physical Victimization. As shown in Table L3, for the regression predicting physical victimization, the first (sex, age) $R^2 = .14$, F (2, 363) = 30.69, $p = .00$, second (dominance), $R^2 \Delta = .06$, $F \Delta$ (3, 362) = 24.95, $p = .00$, and third (sex X dominance), $R^2 \Delta = .02$, $F \Delta$ (4, 361) = 7.55, $p = .01$, steps were significant. To explain the significant sex X dominance interaction, regression lines for boys and girls were graphed (see Figure L2). As shown in the figure, lower dominance ratings were predictive of higher victimization ratings for boys. The association between dominance and physical victimization was also negative for girls, but was non-significant. Physical victimization was higher for boys than for girls, regardless of the effect of dominance.

Table L1

Summary of Hierarchical Multiple Regression Analysis for Dominance Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.39	-8.04***	.15***	-.43	-9.59***
	Age	-.01	-.11		.01	.25
2	Dominance	.34	7.50***	.11***	.34	7.51***
3	Sex X dominance	-.12	-2.63**	.01**	-.12	-2.63**

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

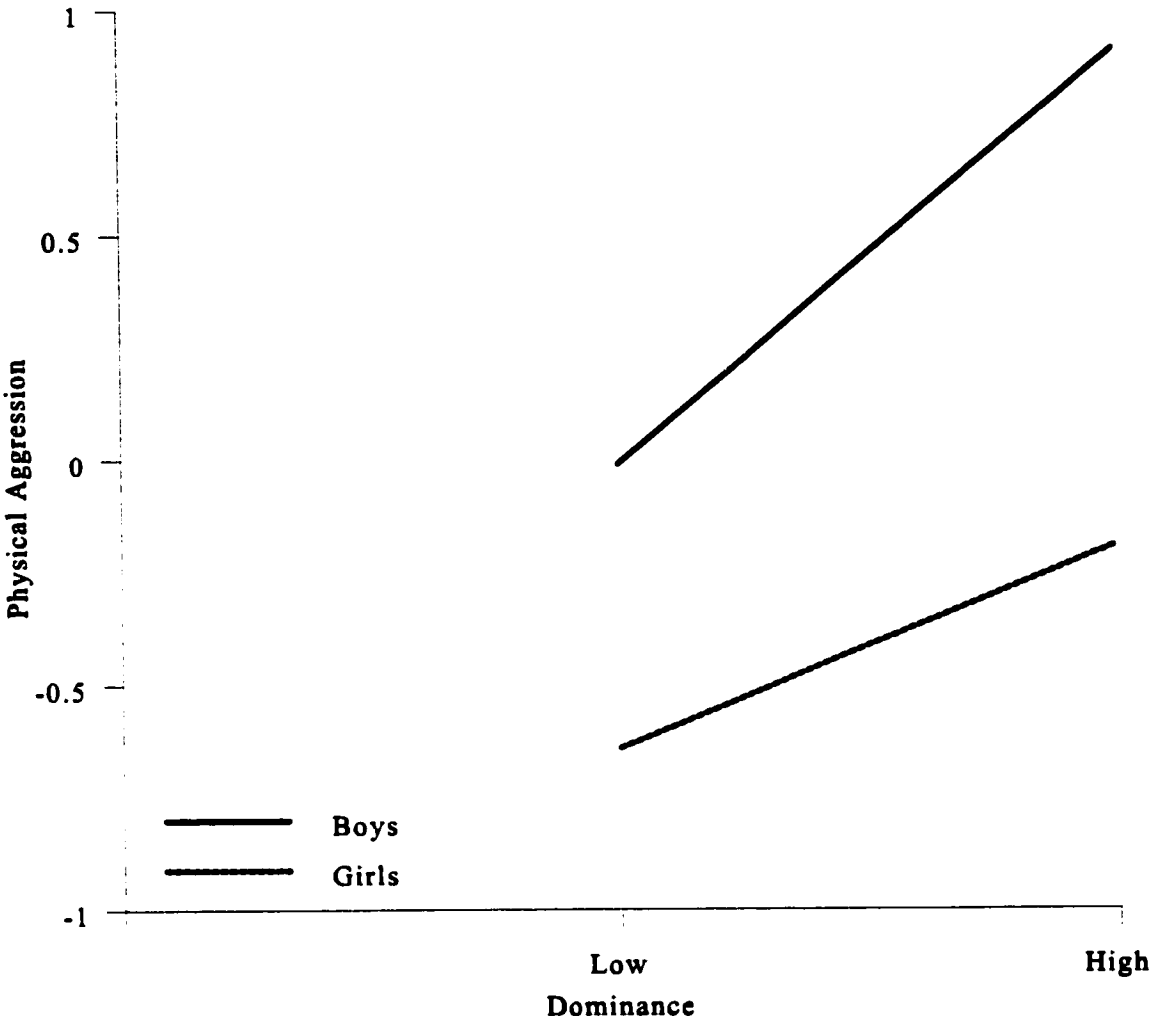

Figure L1. Interaction between sex and dominance in the prediction of physical aggression.

Table L2

Summary of Hierarchical Multiple Regression Analysis for Dominance Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	.02	.33	.01	-.04	-.83
	Age	-.07	-1.28		-.05	-1.01
2	Dominance	.45	9.39***	.19***	.45	9.39***
3	Sex X dominance	.03	.54	.00	.03	.54

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table L3

Summary of Hierarchical Multiple Regression Analysis for Dominance Predicting Physical Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.38	-7.74***	.14***	-.35	-7.35***
	Age	-.10	-1.99*		-.11	-2.33*
2	Dominance	-.24	-5.0***	.06***	-.23	-4.98***
3	Sex X dominance	.13	2.75**	.02**	.13	2.75**

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

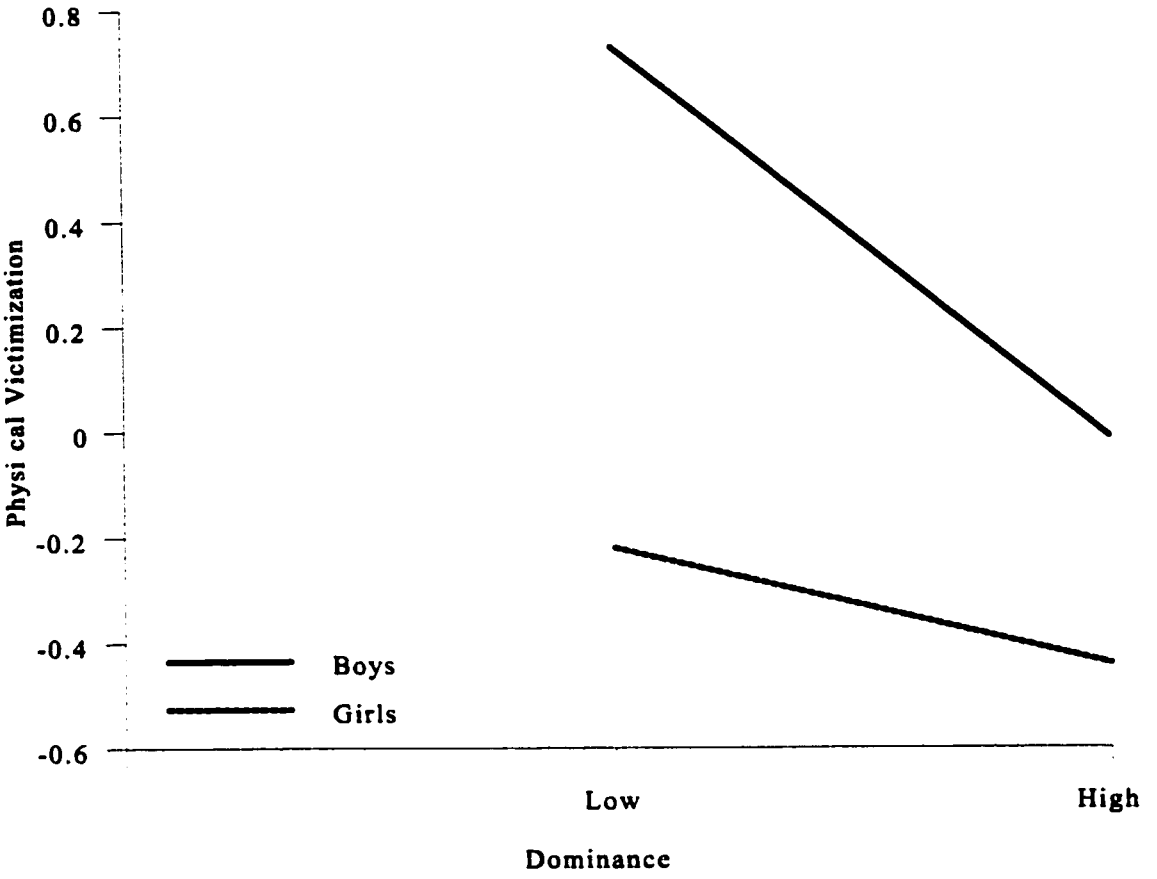

Figure L2. Interaction between sex and dominance in the prediction of physical victimization.

Relational victimization. As shown in Table L4, for the regression predicting relational victimization, only the second step (dominance), R^2 Δ= .02, F Δ (3, 362) = 7.03, p = .01, was significant, indicating that dominance ratings were negatively predictive of relational victimization equally for both sexes.

Self Variables Predicting Aggression and Victimization

Physical aggression. For the regression predicting physical aggression, the first (sex, age) R^2 = .18, F (2, 202) = 22.69, p = .00, second (actual self - male), R^2 Δ= .06, F Δ (3, 201) = 15.97, p = .0001, third (actual self - female), R^2 Δ= .01, F Δ (4, 200) = 3.77, p = .05, and fifth (self-discrepancies - female), R^2 Δ= .03, F Δ (8, 196) = 3.49, p = .03, steps were significant. At the final step of the regression, sex, actual self - male, and actual-ought discrepancy - female were significant predictors of physical aggression. Specifically, being a boy, having higher ratings of actual self - male and a negative actual-ought discrepancy - female were predictive of physical aggression (see Table L5).

Relational aggression. For the regression predicting relational aggression, the second (actual self - male), R^2 Δ= .09, F Δ (3, 201) = 19.77, p = .00, and fifth (self-discrepancies - female), R^2 Δ= .04, F Δ (8, 196) = 4.23, p = .02) steps were significant. At the final step of the regression, actual self- male and actual-ought discrepancy - female were significant predictors (see Table L6). Specifically, higher actual self - male scores and a negative actual-ought discrepancy - female scores were predictive of higher relational aggression.

Physical victimization. For the regression predicting physical victimization, the first (sex, age), R^2 = .18, F (2, 202) = 21.99, p = .00, and fourth (self-discrepancies - male), R^2 Δ= .02, F Δ (6, 198) = 3.06, p = .05, steps were significant (see Table L7). At

Table L4

Summary of Hierarchical Multiple Regression Analysis for Dominance Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.04	-.81	.00	-.02	-.47
	Age	-.06	-1.15		-.07	-1.29
2	Dominance	-.14	-2.65**	.02**	-.14	-2.63**
3	Sex X dominance	.06	1.17	.00	.06	1.17

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table L5

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.43	-6.74***	.18***	-.30	-4.19***
	Age	-.06	-.97		-.05	-.86
2	Actual self - male	.25	4.00***	.06***	.37	3.21**
3	Actual Self- female	-.16	-1.94*	.01*	-.05	-.46
4	Actual-ideal discrepancy - male	-.10	-1.17	.01	-.13	-1.11
	Actual-ought discrepancy - male	-.06	-.89		.14	1.20
5	Actual-ideal discrepancy - female	.01	.05	.03*	.04	.37
	Actual-ought discrepancy - female	-.26	-2.31*		-.30	-2.47**
6	Sex X actual self - female	.02	.26	.01	.00	-.03
	Sex X actual self- male	-.11	-1.31		-.08	-.74
7	Sex X actual-ideal discrepancy - male	-.04	-.39	.00	.02	.18
	Sex X actual-ought discrepancy - male	.05	.65		-.06	-.47
8	Sex X actual-ideal discrepancy - female	-.07	-.67	.00	-.07	-.67
	Sex X actual-ought discrepancy - female	.14	1.11		.14	1.11

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table L6

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.08	-1.12	.01	.02	.32
	Age	-.09	-1.28		-.07	-1.05
2	Actual self - male	.30	4.45***	.09***	.38	3.03**
3	Actual self- female	-.10	-1.08	.01	.07	.66
4	Actual-ideal discrepancy - male	-.17	-1.76(*)	.02(*)	-.17	-1.30
	Actual-ought discrepancy - male	-.08	-.97		.16	1.20
5	Actual-ideal discrepancy - female	-.03	-.27	.04*	-.03	-.28
	Actual-ought discrepancy - female	-.29	-2.38*		-.31	-2.33*
6	Sex X actual self - female	-.01	-.17	.00	.00	.04
	Sex X actual Self- male	.06	.67		.08	.63
7	Sex X actual-ideal discrepancy - male	-.09	-.92	.00	-.06	-.46
	Sex X actual-ought discrepancy - male	.06	.78		.05	.35
8	Sex X actual-ideal discrepancy - female	-.05	-.41	.00	-.05	-.41
	Sex X actual-ought discrepancy - female	.02	.14		.02	.14

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table L7

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables Predicting Physical Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.43	-6.62***	.18***	-.37	-5.08***
	Age	-.07	-1.15		-.09	-1.44
2	Actual self - male	-.12	-1.83(*)	.01(*)	.08	.71
3	5Actual self- female	-.12	-1.48	.01	-.04	-.39
4	Actual-ideal discrepancy - male	-.17	-1.91(*)	.02*	-.29	-2.32*
	Actual-ought discrepancy - male	-.08	-1.00		.05	.38
5	Actual-ideal discrepancy - female	-.01	-.14	.00	.05	.40
	Actual-ought discrepancy - female	-.10	-.83		-.16	-1.31
6	Sex X actual self - female	-.05	-.57	.02(*)	-.10	-.97
	Sex X actual Self- male	.18	2.15*		.12	1.00
7	Sex X actual-ideal discrepancy - male	.17	1.76(*)	.01	.21	1.71(*)
	Sex X actual-ought discrepancy - male	-.02	-.23		-.14	-1.13
8	Sex X actual-ideal discrepancy - female	-.05	-.42	.01	-.05	-.42
	Sex X actual-ought discrepancy - female	.16	1.29		.16	1.29

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

the final step, sex and actual-ideal discrepancy - male were significant predictors. Specifically, being a boy and having a negative actual-ideal discrepancy - male were significant predictors of physical victimization.

Relational victimization. For the regression predicting relational victimization, only the fourth step (self-discrepancies - male), R^2 Δ= .03, F Δ (6, 198) = 3.66, p = .03, was significant (see Table L8). At the final step, actual-ideal discrepancy - male was significant. Specifically, having a negative actual-ideal discrepancy - male was predictive of higher relational victimization.

Self-Efficacy/Outcome Expectancy for Aggression Predicting Aggression/Victimization

Physical aggression. For the regression predicting physical aggression (see Table L9), the first (sex, age), R^2 = .15, F (2, 333) = 29.90, p = .00, second (self-efficacy for conflict and non-conflict situations), R^2 Δ= .04, F Δ (4, 331) = 8.58, p = .00, and third (self-efficacy for physical aggression), R^2 Δ= .09, F Δ (5, 330) = 42.74, p = .00, steps were significant upon entry. At the final step of the regression, sex and self-efficacy for physical aggression were significant. Specifically, being a boy and having higher self-efficacy for physical aggression were predictive of higher physical aggression scores.

Relational aggression. For the regression predicting relational aggression, the second (self-efficacy for conflict and non-conflict situations), R^2 Δ= .04, F Δ (4, 339) = 6.72, p = .001, third (self-efficacy for relational aggression), R^2 Δ= .04, F Δ (5, 338) = 15.10, p = .0001, and fifth (two-way interactions with sex), R^2 Δ= .03, F Δ (12, 331) = 2.22, p = .05, steps were significant. At the final step of the

Table L8

Summary of Hierarchical Multiple Regression Analysis for Self-Discrepancy Variables Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.12	-1.67(*)	.01	-.03	-.37
	Age	.01	.13		-.01	-.12
2	Actual self - male	.02	.21	.00	.21	1.64(*)
3	Actual self- female	-.13	-1.46	.01	-.03	-.25
4	Actual-ideal discrepancy - male	-.24	-2.40*	.03*	-.36	-2.59**
	Actual-ought discrepancy - male	-.05	-.56		.18	1.28
5	Actual-ideal discrepancy - female	.05	.47	.02	.06	.48
	Actual-ought discrepancy - female	-.23	-1.83(*)		-.26	-1.86(*)
6	Sex X actual self - female	-.13	-1.40	.02	-.15	-1.31
	Sex X actual self- male	.18	1.92(*)		.07	.56
7	Sex X actual-ideal discrepancy - male	.13	1.26	.01	.10	.70
	Sex X actual-ought discrepancy - male	.06	.74		.08	.61
8	Sex X actual-ideal discrepancy - female	.05	.43	.00	.05	.43
	Sex X actual-ought discrepancy - female	-.02	-.17		-.02	-.17

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table L9

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy and Outcome Expectancy Variables Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.39	-7.65***	.15***	-.28	-5.62***
	Age	.01	.23		-.03	-.65
2	Self-efficacy for conflict situations	.21	3.09**	.04***	.11	1.58
	Self-efficacy for non-conflict situations	-.01	-.14		.01	.21
3	Self-efficacy for physical aggression	.33	6.54***	.09***	.31	5.75***
4	Peer approval for physical aggression	.05	.72	.00	.08	1.08
	Self-reward for physical aggression	-.01	-.20		-.04	-.54
5	Sex X self-efficacy for conflict situations	.09	1.28	.02	.09	1.28
	Sex X self-efficacy for non-conflict situations	.02	.23		.02	.23
	Sex X self-efficacy for physical aggression	-.07	-1.28		-.07	-1.28
	Sex X peer approval for physical aggression	.11	1.59		.11	1.59
	Sex X self-reward for physical aggression	-.05	-.69		-.05	-.69

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

regression, there were significant main effects for age and self-efficacy for relational aggression, with being younger and having higher self-efficacy for relational aggression predictive of relational aggression. As well, there was a significant sex X peer approval for relational aggression interaction (see Table L10). To explain this interaction, the regression lines for boys and girls were graphed (see Figure L3). For boys, peer approval for relational aggression was negatively predictive of relational aggression scores, whereas for girls, peer approval for relational aggression was positively predictive of relational aggression scores.

Physical victimization. For the regression predicting physical victimization, the first (sex, age), $R^2 = .15$, $F \Delta (2, 333) = 30.26$, $p = .00$, and second (self-efficacy for conflict and non-conflict situations), $R^2 \Delta = .02$, $F \Delta (4, 331) = 3.78$, $p = .02$, steps were significant. As well, there were significant sex X self-reward for physical aggression as well as sex X peer approval for physical aggression interactions (see Table L11). To explain the significant interactions, the regression lines for self-reward for physical aggression predicting physical victimization were graphed separately for boys and girls. As shown in Figure L4, for girls, self-reward for physical aggression was negatively predictive of physical victimization. For boys, physical victimization was not significantly predicted by self-reward for physical aggression scores. As shown in Figure L5, physical victimization was not significantly predicted by peer approval for physical aggression for boys, though they were rated as experiencing higher rates of physical victimization than girls, regardless of their peer approval scores. For girls, peer approval for physical aggression was directly predictive of physical victimization scores.

Table L10

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy and Outcome Expectancy Variables Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	.01	.20	.01	.05	1.02
	Age	-.07	-1.27		-.11	-2.10*
2	Self-efficacy for conflict situations	.08	1.09	.04***	.06	.73
	Self-efficacy for non-conflict situations	.13	1.74(*)		.10	1.32
3	Self-efficacy for relational aggression	.21	3.89***	.04***	.16	2.85**
4	Peer approval for relational aggression	.02	.28	.01(*)	.01	.18
	Self-reward for relational aggression	.11	1.40		.13	1.58
5	Sex X self-efficacy for conflict situations	-.01	-.08	.03*	-.01	-.08
	Sex X self-efficacy for non-conflict situations	.02	.27		.02	.27
	Sex X self-efficacy for relational aggression	.06	1.08		.06	1.08
	Sex X peer approval for relational aggression	.20	2.65**		.20	2.65*
	Sex X self-reward for relational aggression	-.03	-.44		-.03	-.44

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

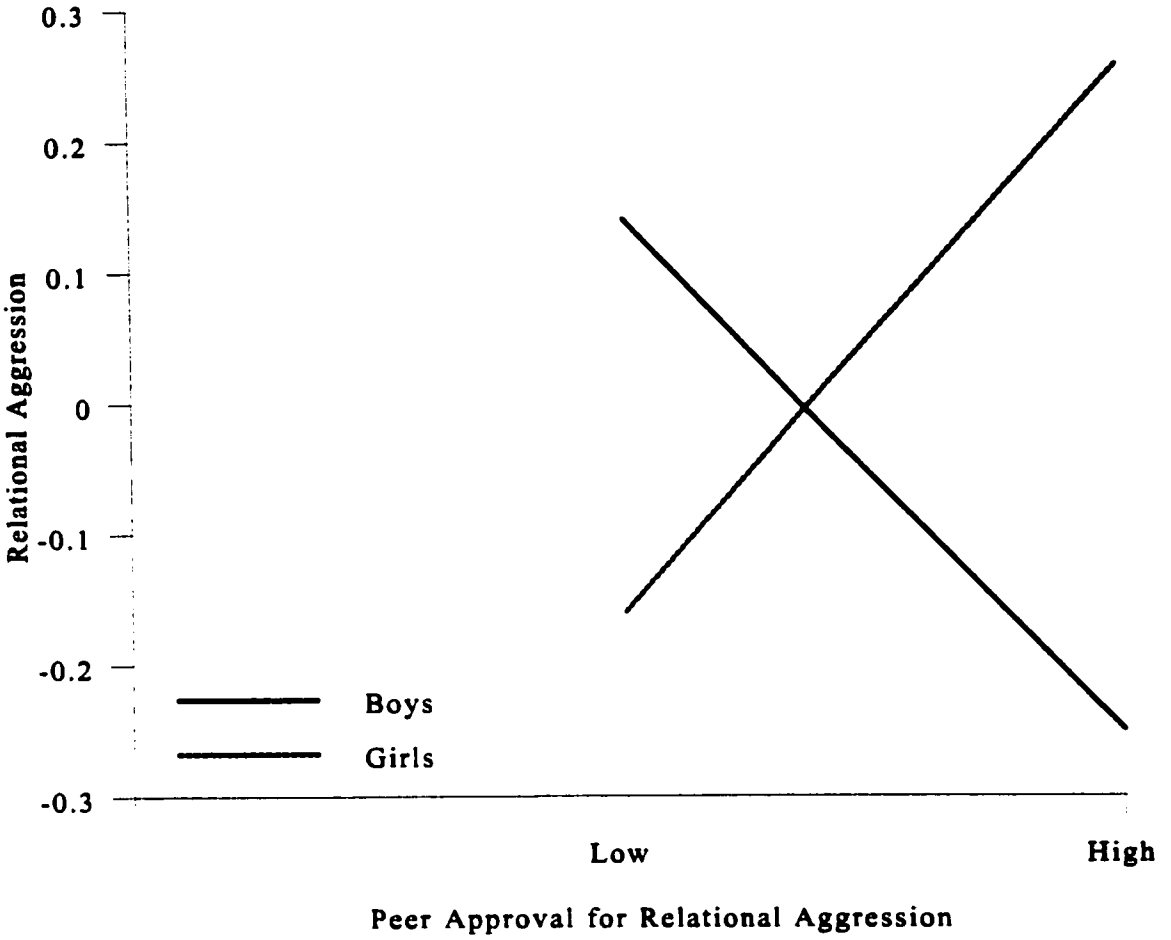

Figure L3. Interaction between sex and peer approval for relational aggression in the prediction of relational aggression.

Table L11

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy and Outcome Expectancy Variables Predicting Physical Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.39	-7.75***	.15***	-.39	-7.37***
	Age	-.08	-1.58		-.06	-1.17
2	Self-efficacy for conflict situations	-.05	-.74	.02*	-.03	-.47
	Self-efficacy for non-conflict situations	-.10	-1.41		-.12	-1.72(*)
3	Self-efficacy for physical aggression	.03	.58	.00	.02	.43
4	Peer approval for physical aggression	.16	2.13*	.01	.19	2.44*
	Self-reward for physical aggression	-.11	-1.47		-.15	-1.85
5	Sex X self-efficacy for conflict situations	-.05	-.66	.02	-.05	-.66
	Sex X self-efficacy for non-conflict situations	-.01	-.15		-.01	-.15
	Sex X self-efficacy for physical aggression	.07	1.23		.07	1.23
	Sex X peer approval for physical aggression	.15	1.95*		.15	1.95*
	Sex X self-reward for physical aggression	-.17	-2.21*		-.17	-2.21*

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

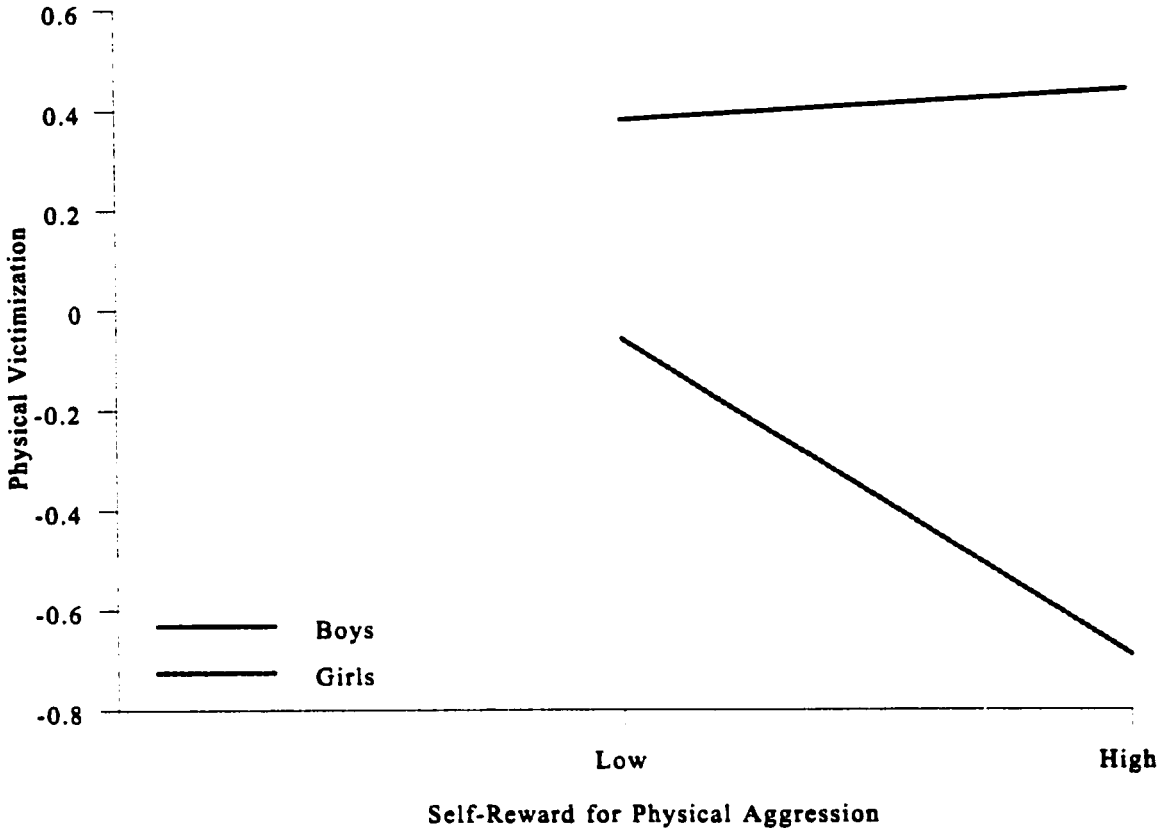

Figure L4. Interaction between sex and self-reward for physical aggression in the prediction of physical victimization.

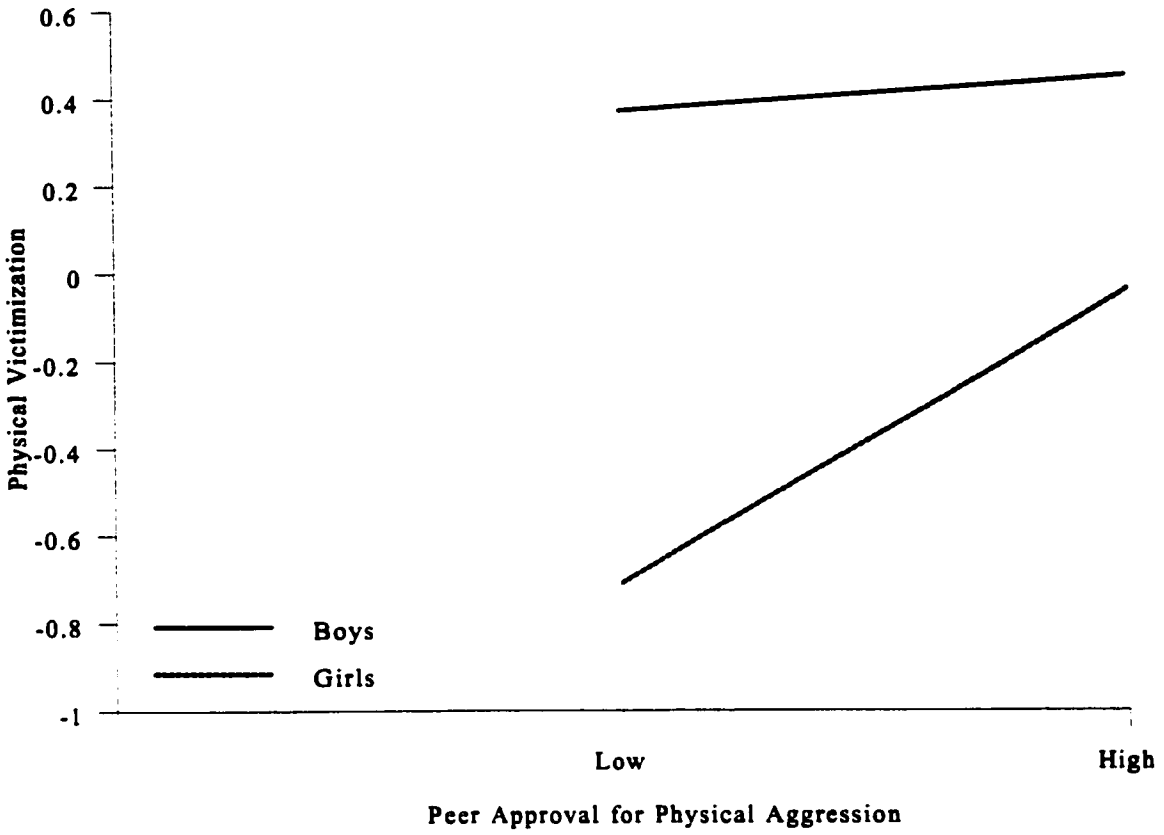

Figure L5. Interaction between sex and peer approval for physical aggression in the prediction of physical victimization.

Relational victimization. For the regression predicting relational victimization, only the third step (self-efficacy for relational aggression), $R^2 \Delta = .02$, $F \Delta (5, 338) = 7.75$, $p = .01$, was significant. At the final step of the regression, there was a significant main effect for self-efficacy for relational aggression, with higher self-efficacy for relational aggression predictive of relational victimization. As well, there was a significant sex X peer approval for relational aggression interaction (see Table L12). To explain this interaction, the regression lines for boys and girls were graphed (see Figure L6). As shown in the figure, for girls, perceived peer approval for relational aggression was strongly and positively predictive of relational victimization, whereas for boys, perceived peer approval for relational aggression was negatively predictive of relational victimization scores.

Social Importance Predicting Aggression/Victimization

Physical aggression. For the regression predicting physical aggression, the first (sex, age), $R^2 = .15$, $F (2, 347) = 31.47$, $p = .00$, and second (social importance - male, social importance - female), $R^2 \Delta = .02$, $F \Delta (4, 345) = 3.36$, $p = .04$, steps were significant upon entry (see Table L13). At the final step, only sex was predictive of physical aggression. Specifically, being a boy was predictive of higher physical aggression.

Relational aggression. For the regression predicting relational aggression, the second (social importance), $R^2 \Delta = .05$, $F \Delta (4, 346) = 9.18$, $p = .00$) step was significant upon entry. At the final step, social importance - female was positively predictive of relational aggression (see Table L14).

Physical victimization. For the regression predicting physical victimization, the

Table L12

Summary of Hierarchical Multiple Regression Analysis for Self-Efficacy and Outcome Expectancy Variables Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.05	-.93	.00	-.04	-.75
	Age	-.05	-.89		-.05	-.88
2	Self-efficacy for conflict situations	.03	.33	.00	.01	.08
	Self-efficacy for non-conflict situations	-.07	-.90		-.09	-1.16
3	Self-efficacy for relational aggression	.15	2.78**	.02**	.16	2.60**
4	Peer approval for relational aggression	.07	.85	.00	.07	.82
	Self-reward for relational aggression	-.05	-.56		-.04	-.52
5	Sex X self-efficacy for conflict situations	.01	.09	.02	.01	.09
	Sex X self-efficacy for non-conflict situations	.01	.15		.01	.15
	Sex X self-efficacy for relational aggression	.01	.16		.01	.16
	Sex X peer approval for relational aggression	.19	2.33*		.19	2.33*
	Sex X self-reward for relational aggression	-.12	-1.46		-.12	-1.46

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

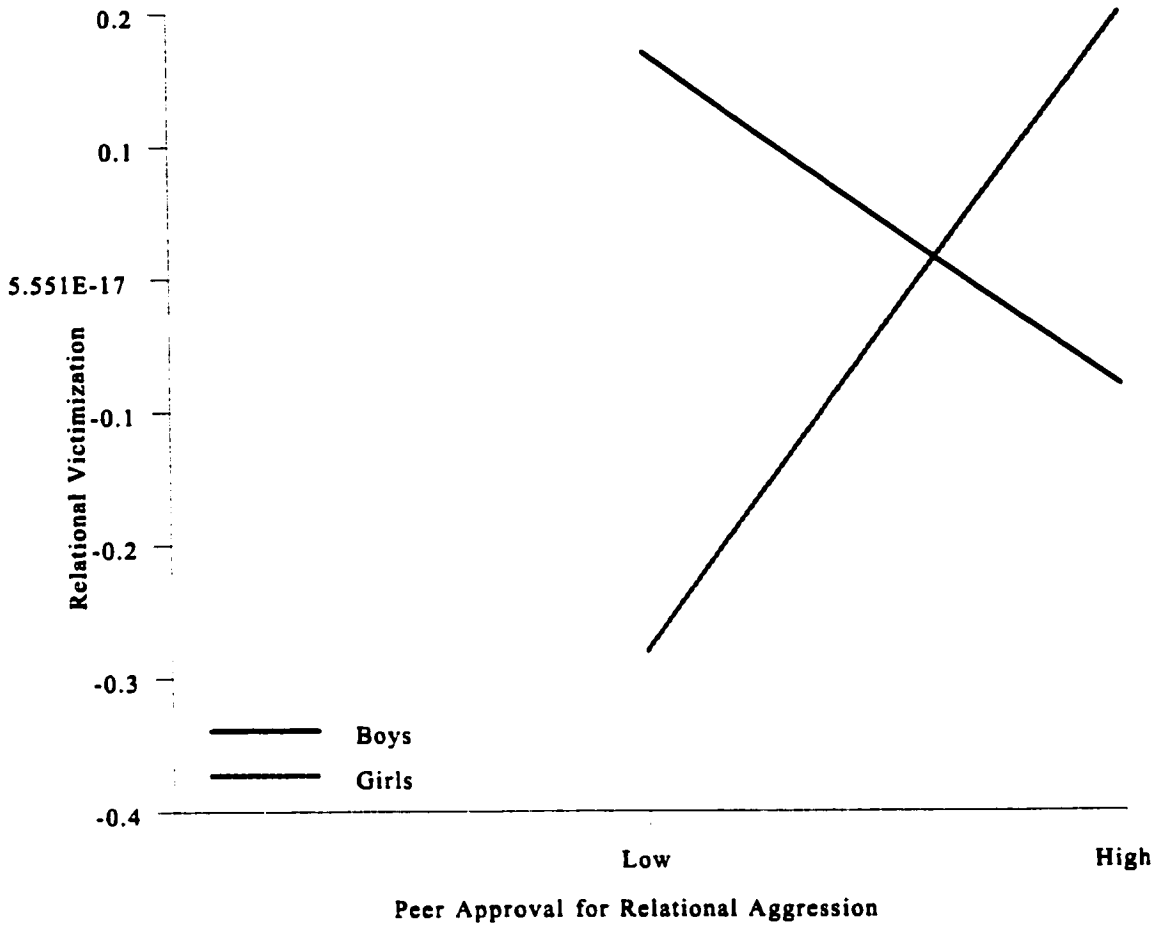

Figure L6. Interaction between sex and peer approval for relational aggression in the prediction of relational victimization.

Table L13

Summary of Hierarchical Multiple Regression Analysis for Social Importance Variables Predicting Physical Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.39	-7.90***	.15***	-.38	-7.56***
	Age	.00	-.04		-.02	-.31
2	Social importance - male	.08	1.27	.02*	.08	1.29
	Social importance - female	.06	.94		.06	.93
3	Sex X social importance - male	.03	.52	.00	.03	.52
	Sex X social importance - female	-.03	-.47		-.03	-.47

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table L14

Summary of Hierarchical Multiple Regression Analysis for Social Importance Predicting Relational Aggression

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	.02	.38	.00	.03	.57
	Age	-.05	-1.02		-.08	-1.47
2	Social importance - male	.08	1.13	.05***	.09	1.26
	Social importance - female	.17	2.47**		.17	2.45**
3	Sex X social importance - male	.08	1.17	.00	.08	1.17
	Sex X social importance - female	-.03	-.50		-.03	-.50

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

first (sex, age), $\underline{R^2} = .15$, $\underline{F}\Delta\ (2, 347) = 31.01$ $\underline{p} = .00$, step was significant upon entry. At the final step, sex and age were significant predictors of physical victimization. Specifically, being a boy and being younger were predictive of higher ratings of physical victimization (see Table L15).

Relational victimization. For the regression predicting relational victimization, none of the steps approached significance upon entry or at the final step (see Table L16).

Table L15

Summary of Hierarchical Multiple Regression Analysis for Social Importance Variables Predicting Physical Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.38	-7.67***	.15***	-.37	-7.30***
	Age	-.13	-2.56**		-.13	-2.57**
2	Social importance - male	.08	1.20	.00	.08	1.27
	Social importance - female	-.06	-.88		-.06	-.89
3	Sex X social importance - male	.08	1.22	.00	.08	1.22
	Sex X social importance - female	-.08	-1.27		-.08	-1.27

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$

Table L16

Summary of Hierarchical Multiple Regression Analysis for Social Importance Variables Predicting Relational Victimization

Step	Variable	Upon Entry		For Step	At Final Step	
		β	t	ΔR^2	β	t
1	Sex	-.03	-.60	.01	-.02	-.28
	Age	-.07	-1.30		-.08	-1.49
2	Social importance - male	.12	1.74(*)	.01	.13	1.81(*)
	Social importance - female	-.02	-.25		-.02	-.26
3	Sex X social importance - male	.10	1.36	.01	.10	1.36
	Sex X social importance - female	-.11	-1.54		-.11	-1.54

(*) $p < .10$ * $p < .05$ ** $p < .01$ *** $p < .001$