Preface: Sex Differences in the Functions and Precursors of Adolescent Aggression

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Over the last two decades, the gap between adolescent girls' and boys' involvement in aggressive behavior has steadily decreased. Statistics on violent crimes committed by adolescents [Puzzanchera et al., 2003] and self-report measures of offending [US Department of Health and Human Services, 2001] indicate the ratio of girls to boys involvement has decreased 3-fold over the last 20 years. While girls' involvement in violence has yet to "reach the high water mark set by male violence" [Alder, 1975; p 14], such trends have sparked volumes of new research documenting sex differences in the magnitude and expression of aggression at different development periods. Over the past two decades, for example, the number of papers published on sex differences in childhood or adolescence aggression has increased an average of 3.4% per year, resulting in an accumulated increase of 616 peer-reviewed papers during that time[1]. Recent meta-analytic reviews [see Archer, 2004] confirm the widely documented sex differences across development; the cumulative body of literature also reveals important developmental trends that vary across males and females depending on whether direct vs. indirect forms of aggression are studied.

Despite the rapidly increasing knowledge base with respect to mapping levels of involvement in aggression among boys and girls, important questions remain regarding why sex differences in levels of aggression arise; what social, cognitive and emotional processes underlie these differences, and whether the functional role of aggression in social relationships differs for boys and girls and uniquely influences future development. The challenge for the field is to move beyond mere documentation of sex differences to develop theoretical models that can guide future research—a step that is required in order to formulate a better understanding of aggression in girls *and* boys.

This volume provides a glimpse into the types of models and research questions that may contribute to our understanding of how best to interpret sex differences in adolescent aggression. For example, Pepler et al. [this volume] chart new ground by questioning how sex differences and similarities in the continuity of aggression over adolescence unfold, taking into account the fact that the manifest expression of aggression changes form over development. These authors contend that, despite changes in how aggression is expressed, the function of aggression remains fixed—to control and dominate relationships through aggressive acts and intimidation. The target of aggression also shifts from a primary focus on peers to romantic partners. While boys were expected to perpetrate more aggression toward peers than girls, sex differences were not observed in romantic relationships. Pepler's findings are consistent with patterns of domestic violence that have been widely documented during adulthood but only recently investigated in adolescent relationships [Moffitt et al., 2001]. These results are intriguing because they challenge the view that boys are universally more aggressive than girls by suggesting instead that relationship contexts make a difference: girls are just as likely as boys to use aggression to dominate and control romantic relationships. The findings also point to the need for the field to consider

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[1]Percentages were generated based on a PSYC INFO search by year 1985–2004. Search terms included: "sex differences" AND "aggression" AND "childhood" OR "adolescence".

the interpersonal function of aggression—what it achieves or seeks to achieve in close relationships—and to ask what kinds of socialization experiences lead some adolescents but not others to rely on aggression to navigate their way through close relationships.

Why are some adolescents at greater risk for aggression than others? Exposure to modeling of aggressive behavior in close relationships has emerged as a key risk factor in adolescents' aggression in close relationships. To date, the majority of studies have focused only on exposure to father perpetrated physical violence on their partners and its effects on their son's aggressive behavior toward others. In our paper [Moretti et al., this volume], we broadened the scope by asking whether girls and boys are *differentially* influenced by exposure to maternal vs. inter-paternal violence (IPV). Consistent with previous research results showed that exposure to parental partner aggression is associated with higher levels of aggressive behavior, but these effects were not the same for girls and boys. First, exposure to maternal IPV was associated with aggression toward friends for girls but not for boys, and exposure to paternal IPV was associated with aggression toward friends for boys but not for girls. Second, maternal IPV but not paternal IPV was related to daughters and sons aggression in romantic relationships. These relationships suggest that there are sex differences in the impact of maternal vs. paternal IPV on girls vs. boys; but sex of the parent engaging in IPV also influences the consequences of exposure. Thus sex differences appear at both the level of the child and the level of the parent who models aggression. Importantly, our findings revealed that the majority of the effects we observed remained significant even when we controlled for maternal and paternal physical aggression toward sons and daughters.

An important message in both of these papers is that there are sex differences and similarities in the impact of exposure to family violence and in the use of aggression in relationships. These papers also raise the question of whether aggression may serve important functions in some relationship contexts, but it is difficult to understand what these benefits might be when aggression appears to have such negative consequences for both perpetrators and their victims. The two remaining papers in this special section address questions about the function of adolescent aggression: how may aggression reward perpetrators in close relationships and are there sex differences in the benefits they derive?

Vaillancourt and Hymel (this volume) raise important questions regarding sex differences in factors that may moderate the rewards (e.g., social status) for adolescents who engage in aggressive behavior. Although previous research has demonstrated strong links between aggressive behavior and rejection by peers, the authors point to recent studies that show adolescents who possess high social status also engage in aggressive behavior. Vaillancourt and Hymel argue that positive attributes or competencies (e.g., attractiveness, athleticism) may allow some adolescents to engage in aggressive behavior without suffering negative social consequences (e.g., peer rejection). They also propose that there are sex differences in which socially valued attributes protect perpetrators from paying the price for using aggression. Results confirmed these predictions: boys who possessed highly valued attributes enjoyed high popularity when they engaged in physical and relational aggression, but girls who possessed highly valued attributes only enjoyed high popularity when they engaged in relational aggression—physically aggressive girls were not popular regardless of their social status. These findings point to sex differences in the socially embedded meaning and constraints on the function that different forms of aggression can play in relationships.

Even though aggressive behavior appears to "pay off" for some adolescents, Leadbeater and colleagues (this volume) show that there are also substantial costs that can differ for girls and boys. Using self-reports of perceived benefits and costs of physical and relational aggression, Leadbeater et al. found that the benefits of aggressive behavior in terms of perceived social status were similar for boys and girls, but the costs were not: aggressive boys were more likely than girls to be victimized themselves. On the other hand, physically aggressive girls were more likely to suffer from depression than boys. Taken together, these two papers point to need for researchers to pay close attention to sex differences in how particular social and relational contexts alter the potential rewards and costs for adolescents who engage in aggression. These papers also raise the question of why some adolescents who clearly enjoy high social status nonetheless resort to aggressive tactics within interpersonal relationships while others do not, stimulating us to think about how universal and targeted interventions might assist youth in using non-aggressive strategies to gain the benefits of peer relationships without the costs.

The next decade will bring important advances in our developmental understanding of sex differences in aggressive behavior. To make the most of this exciting transition in the field, researchers need to reflect deeply on the complex functions of aggression,

keeping in mind that the primary determinants of sex differences are intricately woven into the fabric of interpersonal relationships, biological characteristics and social values. Theoretical models need to be developed to move the field beyond documenting sex differences and toward increasing our understanding of key mechanisms and processes. Our hope is that this special section will help to provoke the kind of innovative thinking that will assist in pressing the field towards a deeper understanding of sex differences in aggressive behavior.

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