

The Dark Side of Girlhood: Recent Trends, Risk Factors and Trajectories to Aggression and Violence

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ABSTRACT

Introduction: Over the past two decades, rates of aggressive behavior have increased disproportionately for girls as compared to boys. However research on aggressive and violent behavior has focused primarily on boys and consequently we know relatively little about what places girls at risk, what protects them, and how those who become involved in aggressive behavior navigate a path toward adulthood. **Method:** In this paper we review recent trends on girls' involvement in aggressive behavior, briefly discuss risk and protective factors, and summarize current thinking on developmental trajectories. **Results:** Although much progress has been made in the past decade, we still know relatively little about the pathways, causes and correlates of aggressive behavior in girls and young women. **Discussion:** We emphasize the need for research that is guided by developmental theory and an appreciation of the complex interplay of risk and protective factors over the course of development.

Key Words: aggression, conduct disorder, gender, development, trajectories.

RÉSUMÉ

Introduction: Au cours des deux dernières décennies, les taux de comportement agressif ont augmenté de façon disproportionnée chez les filles par comparaison avec les garçons. Toutefois, les recherches sur l'agressivité et la violence se centrent d'abord sur le garçons, ce qui a pour conséquence que nous ne savons pas très bien pourquoi les filles sont à risque, quels sont les facteurs de protection, et comment celles qui adoptent de tels comportements s'en tirent à l'âge adulte. **Méthodologie:** Pour cet article, nous avons fait une révision des études traitant du comportement agressif chez les filles. Nous discutons brièvement des facteurs de risques et de protection, et nous donnerons un aperçu de la pensée actuelle sur la trajectoire de ces comportements. **Résultats:** Même s'il y eu des progrès sensibles au cours de dix dernières années, nous connaissons encore trop peu les causes, la trajectoire et les conséquences du comportement agressif chez les filles et les jeunes femmes. **Discussion:** Nous sommes encore au tout début des recherches qui permettront de comprendre l'interaction complexe entre facteurs de risque et de protection tout au long du développement des filles et des jeunes femmes.

Mots-clefs: agression, diriger le désordre sexe, développement trajectoires

INTRODUCTION

Until recently, research on aggression and violence has focused primarily on boys. This is understandable given the fact that, compared to girls, boys engage in more physical acts of aggression at every stage of development. But over the past few decades, juvenile justice statistics have documented an unprecedented increase in the rate of violent crime perpetrated by girls, a trend that has both alarmed and puzzled researchers, clinicians and social policy analysts. In concert with this, researchers have also started to recognize that although girls engage in fewer acts of physical aggression than boys, they engage in equal if not higher levels of social or relational aggression. In this paper we review recent trends in the perpetration of aggressive and violent behavior by girls, we discuss gendered forms of aggression, and we examine key risk factors. Although research in the field has progressed rapidly over the past decade, many crucial questions remain unanswered. These are summarized to guide future research. Due to space limitations, we include only key references in our review.

PERPETRATION OF AGGRESSION AND VIOLENCE: RECENT TRENDS

It is important to keep in mind that the rate of violent crime, particularly serious violent acts such as homicide, is consistently higher in boys than girls. For example, in Canada, the rate of

violent crime among girls is one third of the rate among boys. Nonetheless, between 1988 and 1998, this rate more than doubled for girls (+127%) compared to a smaller increase for boys (+65%; Savoie, 2000). Furthermore, between 1996 and 2002, when a slight decrease was noted in the rate of violent crime committed by boys (from 1385 to 1332 per 100 000 youth), a modest increase was observed for girls (from 451.9 to 512.1 per 100 000 youth; Statistics Canada, 2004). In both cases, the increase for girls was due to more frequent engagement in violent acts of lesser seriousness (i.e., common assault). Canadian statistics also show that girls who engage in violent crime are typically younger than are boys (Savoie, 2000). For girls the violent crime index peaks at age 14 to 15 years, while for boys it peaks at age 17.

These findings parallel statistics reported in the United States: overall the growth in person offense cases was greater for adolescent females (157%) than for males (71%) (Puzzanchera, Stahl, Finnegan, Tierney, & Snyder, 2003) and between 1993 and 2002, arrests for aggravated assault decreased 29% for males and increased 7% for girls. Outside North America, the picture is much the same: in the UK, between 1981 and 1999, there was a 23% decrease in juvenile male offenders and an 8% increase in female offenders, although in 1999 males still outnumbered females by 3:1 – 4:1 (East & Campbell, 1999).

In sum, juvenile justice statistics across several countries

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consistently reveal a trend toward greater involvement of girls in the perpetration of aggressive and violent acts. This trend is mirrored in what girls report about their own behavior. According to the US Surgeon General's report (2001), studies of self-reported engagement in serious aggression show the gap between adolescent girls and boys has shrunk by approximately 50%. These trends clearly signal the need for fast tracking research on aggression in girls and developing prevention and treatment programs. However they should not give rise to alarmist social action as the world of violent crime among adolescents is still dominated by males. What is needed is a more thorough understanding of the factors that place girls at risk for aggression and violence, and of the developmental trajectories for girls who become involved in this behavior.

BEYOND PHYSICAL AGGRESSION: RELATIONAL AND SOCIAL AGGRESSION

As previously noted, aggression is not exclusively a physical act. Other forms of aggression include covert acts that harm others through social exclusion, public humiliation and personal rejection. These include such acts as excluding others from social groups, spreading hurtful rumors to encourage rejection and humiliation, and threatening to tell personal secrets as a means of controlling peers. Collectively, these behaviors have been termed social or relational aggression. Research over the past decade has revealed that girls engage in at least equal, or perhaps even higher levels of relational aggression than do boys (e.g., Crick & Grotpeter, 1995). Relational aggression can be reliably detected as early as preschool and children who engage in it are more likely to suffer rejection from their peers and are more likely to affiliate with deviant peers who also engage in relational aggression (Werner & Crick, 2004).

How serious is social aggression? The common view is that while social aggression is unpleasant and ill-mannered, acts of physical aggression are far more damaging – 'sticks and stones will hurt my bones, but words can never hurt me'. Interestingly, studies show that girls suffer more than boys when they are the targets of these acts and they suffer significantly: victimization through social aggression is related to depression, loneliness and low self-esteem (Prinstein, Boergers, Vernberg, 2001). For girls in high risk contexts, social aggression may be a precursor to physical aggression or may play an important role in shaping the context in which more serious acts of aggression occur. In our research (e.g., Odgers & Moretti, 2002), we found social and physical acts of aggression were highly correlated in a high-risk population of girls. Anecdotally, these girls reported that they often became involved (as both perpetrators and victims) in highly socially aggressive peer groups, where rumors of sexual impropriety and fast changing loyalties moved quickly, eventually escalating to acts of physical aggression. Girls differed in how well they fared in these complex social interactions. Some emerged at the top of the social ladder and were admired yet feared by their peers. Others found themselves more frequently in the victim role. The fact that social aggression can have social 'payoffs' for some girls has garnered support from recent studies. For example, Cillessen and Mayeux (2004) found that young adolescents who were relationally aggressive to others held high

social prominence, although they were not well liked by their peers. This was particularly true for girls.

In sum, social and relational forms of aggression are more common in girls than are physical acts. Although social aggression does not produce broken bones or bruises, the effects on victims are not to be underestimated. Furthermore, in the same way that high physical aggression is an indicator of poor adjustment in males, high social aggression is linked to increased risk for peer rejection and deviant peer affiliation in girls. Such behavior may temporarily secure high social status, but because it also engenders dislike by peers, eventually it is likely to result in social rejection.

RISK FACTORS AND DEVELOPMENTAL TRAJECTORIES

Research on factors that increase risk for aggression and violence in girls is slim but growing. While a comprehensive review is beyond the scope of this paper, the following sections highlight key findings from this newly emerging body of research.

Maltreatment and Trauma. One of the most striking findings in the literature on girls in the criminal justice system is the extraordinarily high rate of abuse and maltreatment in their backgrounds. For example, Jasper, Smith and Bailey (1998) found that 71% of girls referred to a forensic mental health facility had experienced at least one and, more typically, multiple forms of abuse. In comparison to boys, girls within these settings are also more likely to have experienced both sexual abuse and physical abuse (Odgers & Moretti, 2002). Chamberlain and Moore (2002) reported that family fragmentation, physical and sexual trauma, and mental health problems are common. Theoretically, victimization is emerging as a key factor in understanding girls' aggression. It is well documented that the majority of violence committed by females occurs within the context of close relationships. Many of these girls learn early that violence and relationships go hand in hand, and that aggression and violence can be a viable, albeit maladaptive, strategy for survival and interpersonal connection.

Not surprisingly, post-traumatic stress disorder (PTSD) symptoms are common in this population. In previous research we found that conduct disordered girls were more likely to have experienced sexual abuse and to meet criteria for PTSD than were boys (Reebye, Moretti, Wiebe & Lessard, 2000). In another Canadian study, Ulzen and Hamilton (1998) reported that over 50% of the small number of incarcerated females in their sample versus 15.8% of incarcerated males met criteria for PTSD: interestingly there were no diagnoses of PTSD in their matched community sample (N = 98). Similarly, Cauffman, Feldman, Waterman, and Steiner (1998) found that half of the participants in a sample of incarcerated female adolescents met full criteria for PTSD versus 32% of the matched sample of incarcerated males. Some researchers have argued that trauma is more strongly associated with involvement in serious delinquent activity in girls than in boys (Breslau, Davis, Andreski, & Peterson, 1991) with evidence from community samples reporting that while males and female adolescents may be equally likely to experience trauma females were six times more likely to develop trauma related psychopathology (e.g., PTSD; Giaconia et al., 1995).

Family Fragmentation and Insecure Attachment. In addition to abuse and trauma, family dysfunction and parental criminality are key risk factors to female aggression. Webster-Stratton (1996) found that parenting and family variables (including mother depression, mother and father negativity, and father life stress) were strongly predictive of girls' but not boys' externalizing problems in a sample of young (aged 4-7 years) children diagnosed with oppositional defiant disorder or early-onset conduct disorder (CD). Findings from our research (Moretti & Odgers, 2002) showed that girls with CD were more likely than boys with CD to have been placed into care outside the home, were more likely to have experienced sexual abuse, and were less likely to be under the legal care of their biological parents. A common picture is emerging across researchers pointing to family fragmentation and disconnection in the lives of girls with serious patterns of aggressive and violent behavior. Because girls are socialized to attend to close relationships and to regulate their behavior accordingly, disruption to these key relationships may have a profound impact on their development. In our work, we have found that many of these girls develop anxious-preoccupied attachment patterns that reflect the instability of key relationships in their lives and place them at risk for victimization by others.

Peer Relationships and Early Sexual Maturation. Extensive research has documented the strong influence of deviant peer affiliation on aggression and delinquency in boys. For girls, we know that peer rejection is associated with aggression, and that engagement in relational aggression predicts affiliation with deviant peers who themselves engage in such behavior (Werner & Crick, 2004). Evidence suggests that the effects of adolescent peer relationships on aggressive and antisocial behaviour in girls should be considered in conjunction with early sexual maturation. Early-maturing girls are more likely to socialize with older peers, particularly older male peers, where engagement in antisocial behavior can be more prevalent. In the Dunedin study, Caspi, Lynam, Moffitt, and Silva (1993) found that early-onset menstruation (younger than 12 years, 5 months) predicted higher self-reported delinquency at age 13. By age 15 girls with early-onset and average-onset menstruation did not differ in their delinquency, but were both more delinquent than girls who experienced late-onset menstruation. Even those girls without prior externalizing behavior problems were more likely to develop conduct problems if they experienced early menarche and developed relationships with deviant peers. Thus the effects of peer relations on the development of aggressive behavior in girls depends both early behavior patterns and on the timing of deviant peers relationships in conjunction with sexual development.

Genetic Contributions. Although there is substantial evidence from longitudinal studies that maltreatment increases risk for aggressive behavior, some have argued that these effects may be due to shared genetic factors in parents and their children (e.g., DiLalla & Gottesman, 1991). One possibility, for example, is that genetic factors lie behind both the rearing environments provided by parents and children's propensity to respond with aggression. Disentangling genetic and environmental contributions requires sophisticated longitudinal research that tests assumptions and competing models of transactional influences over development.

An example of this type of work can be found in recent study by Jaffee, Caspi, Moffitt, & Taylor (2004) that evaluated the genetic versus environmental contributions to aggressive behavior in a large sample of at-risk twins. They confirmed that physical maltreatment prospectively predicted aggressive outcomes and also showed that physical maltreatment was no higher in monozygotic (MZ) than dizygotic (DZ) twins, thus ruling out the possibility that maltreatment was determined by genetic factors. Furthermore, the effects of maltreatment on aggressive behavior remained significant even after parental antisocial history was controlled for and a dosage-response relationship was found, whereby cumulative exposure to maltreatment resulted in higher levels of involvement in antisocial behavior. These findings provide strong evidence that maltreatment is causally related to increased aggressive behavior but also confirm that children of antisocial parents are at higher risk in this respect. The ability to disentangle the gene by environment interplay in this relationship coincided with previous research supporting the genetic transmission of antisocial behavior (accounting for 56% of the variance), but also provided evidence for environmentally mediated effects that add to this relationship. Research of this caliber examining gender differences in the relative contributions of genetic and environmental influences on aggressive behavior still needs to be done, however in the absence of evidence there is little reason to believe that genetic factors would influence boys and girls differently (Rhee and Waldman, 2002). The rapid development in conceptualization and research strategies in the field of behavioral genetics will unquestionably produce important answers to the question of genetic and environmental influences on aggressive behavior during the next decade.

Summary. In sum, a number of studies of high-risk or clinical samples have suggested that various risk factors are more common in the social histories of aggressive girls than boys. However, longitudinal epidemiological studies suggest a different story. Findings from the Dunedin study, for example, show that parental criminality, exposure to parental conflict, sensation-seeking, low IQ, and poor self-esteem increase risk of criminality for both girls and boys (Fergusson & Horwood, 2002). Using the same data, Moffitt and Caspi (2001) found that early-onset delinquents, whether male or female, had backgrounds characterized by poor parenting, difficult temperament, inattention and hyperactivity, and neurocognitive deficits. Only one large scale study has suggested gender differences in how risk exposure influences the development of aggression: Brennan, Hall, Bor, Najman and Williams (2003) found that cumulative social risk factors alone differentiated girls with early versus later onset aggression patterns; biological factors did not differentiate these groups but did differentiate early versus later onset aggression in boys.

Research is also mixed on whether developmental trajectories are comparable for girls and boys. Moffitt (1993) argues that the distinction between early onset life-course persistent versus adolescent time-limited trajectories applies similarly to girls and boys. But the fact that antisocial and aggressive behaviour in girls typically begins in adolescence rather than childhood has led some researchers to question the applicability of this distinction for girls (Silverthorn & Frick, 1999). At the same time, research suggests that even when aggressive and antisocial

behaviour begins in adolescence among girls, the prognosis is just as poor as one finds for early onset boys. That is, girls who become involved in aggressive, violent and antisocial behaviour in adolescence are at high risk for extremely poor adjustment in early adulthood, including higher risk for substance use, multiple mental health problems, criminality, involvement in abusive relationships and high use of social services (see Moretti & Odgers, 2001 for review). As a result, Silverthorn and Frick (1999) have suggested that girls have a unique delayed onset trajectory for aggressive and violent behaviour.

Whether or not these distinct developmental trajectories will be born out by future research remains unclear. New statistical methods that help researchers consider individual variability in developmental trajectories will be instrumental in determining whether girls and boys who engage in aggressive behaviour progress along similar paths to adulthood. Single or dual trajectory models may be overly simplistic in capturing the multiple paths that girls with aggressive behaviour problems may take.

Protective Factors. Despite the fact that knowledge of protective factors may be far more informative to the development of intervention than knowledge of risk factors, the field of child health and psychopathology continues to focus disproportionately on risk. This is also true of research on aggression and violence in girls. Little is known about whether some protective factors are more powerful for girls than boys. However, it is likely that positive adult and family relationships are at least as protective for girls compared to boys in reducing risk for violence and aggression. Kim-Cohen, Moffitt, Caspi, and Taylor (2004) found that maternal warmth was one of the most prominent protective factors that promoted positive adjustment in children despite low socio-economic family status. The protective benefit of positive social relationships may extend to those cultivated outside the family. For example, preliminary research suggests that having a boyfriend, who is at least moderately prosocial during adolescence, can be a protective factor for highly aggressive and antisocial girls (Bender & Losel, 1997).

More research is needed to identify key protective factors, particularly those which buffer girls exposed to adverse environments with multiple risk factors. We also need to understand how protective factors modulate against risk. A likely hypothesis, for example, is that positive relationships with caregivers provide the requisite interpersonal context for early co-regulation of affect and development of pro-social interpersonal strategies. Research that elucidates such mechanisms and processes will provide the type of information required to develop effective intervention strategies.

COMORBIDITY ISSUES

A number of studies have examined the psychiatric comorbidity present among girls with CD. As one would expect, girls who meet criteria for CD often meet criteria for a broad range of comorbid conditions, including attention deficit hyperactivity disorder (ADHD), depression, PTSD and substance use disorders (see Odgers and Moretti, 2002 for review). In our ongoing research with high-risk girls, we include a full structured diagnostic interview and routinely find that girls with aggressive and delinquent behavior problems meet criteria

for upwards of three to four comorbid disorders from both the internalizing and externalizing domains. If one considers the fact that the risk factors that give rise to aggressive and violent behavior likely increase risk for other conditions, either directly or indirectly, this is not surprising. More research is required to understand the sequence of risk exposure and the emergence of disorders in relation to aggressive and violent behavior in girls. In the meantime, however, these findings point to the need for thorough and broad evaluation of mental health needs in girls identified at high-risk for aggression and violence.

CONCLUSION

Comparatively, the field of gender and aggression among girls lags far behind the quality and breadth of knowledge that we have acquired for boys. Thus, in a sense we know very little about the pathways, causes and correlates of aggressive behavior in girls and young women. In comparison to the status of research on girls and aggression only a decade ago, however, much progress has been made. Yet many key issues remain unclear. Because aggression in children and adolescents is influenced by a broad array of contextual, biological, cognitive and socio-emotional factors that interact over time, researchers must adopt more complex models that estimate diverse risk and protective influences over the course of girls' development. As well, we know extremely little about the very early childhood precursors of aggressive behavior in girls as few studies have focused on this period of development; similarly, we are only now beginning to track the life course of young women with aggressive and violent behavior as they themselves become mothers. Much work remains to be done in reaching a greater understanding of girlhood aggression and how we might intervene to prevent and reduce risk.

REFERENCES

- Bender D, Losel F (1997). Protective and risk effects of peer relations and social support on antisocial behaviour in adolescents from multi-problem milieus. *Journal of Adolescence*, 20, 661-678.
- Brennan PA, Hall J, Bor W, Najman JM, Williams G (2003). Integrating biological and social processes in relation to early-onset persistent aggression in boys and girls. *Developmental Psychology*, 39, 309-323.
- Breslau N, Davis GC, Andreski P, Peterson E (1991). Traumatic events and posttraumatic stress disorder in an urban population of young adults. *Archives of General Psychiatry*, 48, 216-222.
- Caspi A, Lynam D, Moffitt TE, Silva PA (1993). Unraveling girls' delinquency: Biological, dispositional, and contextual contributions to adolescent misbehavior. *Developmental Psychology*, 29, 19-30.
- Cauffman E, Feldman SS, Waterman J, Steiner H (1998). Posttraumatic stress disorder among female juvenile offenders. *Journal of the American Academy of Child & Adolescent Psychiatry*, 37, 1209-1216.
- Cillessen AHN, Mayeux L (2004). From censure to reinforcement: Developmental changes in the association between aggression and social status. *Child Development*, 75, 147-163.
- Chamberlain P, Moore KJ (2002). Chaos and trauma in the lives of adolescent females with antisocial behavior and delinquency. *Journal of Aggression, Maltreatment & Trauma*, 6, 79-108.
- Crick NR, Grotpeter JK (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66, 710-722.
- DiLalla LF, Gottesman II (1991). Biological and genetic contributions to violence: Widom's untold tale. *Psychological Bulletin*, 109, 125-129.

- East K, Campbell S (1999). *Aspects of crime: Young offenders 1999*. Home Office: UK. Available online at www.homeoffice.gov.uk/rds/pdfs/aspects-youngoffs.pdf.
- Fergusson DM, Horwood LJ (2002). Male and female offending trajectories. *Development and Psychopathology*, 14, 159-177.
- Jaffe SR, Caspi A, Moffitt TE, Taylor A (2004). Physical Maltreatment Victim to Antisocial Child: Evidence of an Environmentally Mediated Process. *Journal of Abnormal Psychology*, 113, 44-55.
- Jasper A, Smith C, Bailey S (1998). One hundred girls in care referred to an adolescent forensic mental health service. *Journal of Adolescence*, 21, 555-568.
- Kim-Cohen J, Moffitt TE, Caspi A, Taylor A (2004). Genetic and environmental processes in young children's resilience and vulnerability to socioeconomic deprivation. *Child Development*, 75, 651-668.
- Moffitt TE (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674-701.
- Moffitt TE, Caspi A (2001). Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. *Development & Psychopathology*, 13, 355-375.
- Moretti MM, Odgers CL (2002). Aggressive and violent girls: Prevalence, profiles and contributing factors. In RR Corrado (ed.). *Multi-problem violent youth: A foundation for comparative research on needs, interventions and outcomes*. (116-129). Amsterdam, IOS.
- Odgers CL, Moretti MM (2002). Aggressive and antisocial girls: Research update and challenges. *International Journal of Forensic Mental Health*, 1, 103-119.
- Prinstein MJ, Boergers J, Vernberg EM (2001). Overt and relational aggression in adolescents: Social-psychological adjustment of aggressors and victims. *Journal of Clinical Child Psychology*, 30, 479-491.
- Puzzanchera C, Stahl AL, Finnegan TA, Tierney N, Snyder HN (2003). *Juvenile Court Statistics 1998*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.
- Reebye P, Moretti MM, Wiebe VJ, Lessard J (2000). Symptoms of posttraumatic stress disorder in adolescents with conduct disorder: Sex differences and onset patterns. *Canadian Journal of Psychiatry*, 45, 746-751.
- Rhee SH, Waldman I (2002). Genetic and environmental influences on antisocial behavior: A meta-analysis of twin and adoption studies. *Psychological Bulletin*, 128, 490-529.
- Savoie J (2000). *Youth violent crime*. (Statistics Canada-Catalogue number 85-002-XPE. Vol. 19 no. 13). Ottawa: Canadian Centre for Justice Statistics.
- Silverthorn P, Frick PJ (1999). Developmental pathways to antisocial behavior: The delayed-onset pathway in girls. *Development and Psychopathology*, 11, 101-126.
- Statistics Canada (2004). *Adults and Youths Charged, by sex and offence category, Canada, Provinces and Territories*. Canadian socio-economic information management database (Table 1905009). Ottawa: Statistics Canada.
- Ulzen TPM, Hamilton H (1998). The nature and characteristics of psychiatric comorbidity in incarcerated adolescents. *Canadian Journal of Psychiatry*, 43, 57-63.
- US Department of Health and Human Services. (2001). *Youth violence: A report of the Surgeon General*. Rockville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; Substance Abuse and Mental Health Services Administration, Center for Mental Health Services; and National Institutes of Health, National Institute of Mental Health.
- Webster-Stratton C (1996). Early onset conduct problems: Does gender make a difference? *Journal of Consulting & Clinical Psychology*, 64, 540-551.
- Werner NE, Crick NR (2004). Maladaptive peer relationships and the development of relational and physical aggression during middle childhood. *Social Development*, 13, 495-514.