ENCYCLOPEDIA on Early Childhood Development

Sex Differences in the Development of Aggression From Early Childhood to Adulthood

John Archer, PhD, FBPS

University of Central Lancashire, United Kingdom

January 2012

Introduction

Sex differences in aggression are of considerable practical importance in view of the societal problems caused by violent behaviour, and the consistent finding that these mainly involve young men.[1-5] Their significance is subject to considerable debate between biologically-oriented and socially-oriented scientists.[6-9]

Subject

The topic is the origin and subsequent development of sex differences in aggression, their various forms and individual differences, and their manifestation in adulthood.

Problems

©2012-2026 ABILIO | AGGRESSION

The main scientific problems concern their age of onset; whether they increase with age; whether the developmental progression differs for different types of aggression; and whether violent behaviour can be traced to influences in early childhood.

Research Context

Most research has been carried out in modern western nations, although some key findings, such as the occurrence of sex differences in aggression early in childhood and the peak of violent aggression in early adulthood, have been confirmed in other societal contexts.[4,6]

Key Research Questions and Results

Aggression is first seen in infants when they express facial anger. The beginning of aggressive acts against peers is tugging at another child's toy, hitting coming later.[10,11] An observational study[12] found a large sex difference for "grabbing another child's toy" at 27 months. Large-scale longitudinal studies show higher levels of physical aggression for boys at 17 months and at 2 years, based on mothers' reports.[8,9,13,14] These early sex differences occur before the children have been subject to the socialization agents that are, in some accounts, held to cause the differences.[15] Overall, there is not an increasing magnitude of sex difference in aggression as the child becomes older.[14]

Physical aggression typically declines from its peak between 2-4 years, to be replaced by alternative ways of resolving conflicts.[8,9] Both sexes show the decrease, although the early sex difference is maintained through childhood and into adulthood.[6] Of more practical concern are those children who display unusually high levels of physical aggression. Large-scale longitudinal studies show that for around 10% of the sample, the early high level of physical aggression is maintained until 11 years or older. These are mostly boys:[14] yet most boys are not in this group. In contrast, just over a third of the sample shows very little physical aggression throughout childhood, and most of these are girls.[14] Studies of young adults show a wider variation among men than women,[16] and that there are proportionately more men than women committing dangerous acts of violence.[6,7]

Along with the decline in physical aggression with age, there are two other important developmental changes, first an increase in non-physical forms of aggression; and second, the increasing seriousness of physical aggression when it does occur.

©2012-2026 ABILIO | AGGRESSION

Verbal aggression includes threatening actions that accompany physical aggression, and arguments and verbal-put-downs whose aim is to denigrate the other's social standing.[14] These tend to have their specific forms in boys and girls that fit the differences between their social groups and what is held to be important in these. Bearing in mind these differences, face-to-face verbal aggression tends to be more common in boys than girls, from early in life, to adulthood.[6,7]

Indirect verbal aggression is more common in girls than in boys.[6,17] It involves seeking to harm the person's reputation or social standing, and may include social ostracism. Finnish studies involving peer reports found that indirect aggression peaked between ages 11 to 17 years,[18,19] and girls' higher involvement than boys increases from middle childhood to 17 years.[19] Longitudinal studies using mothers' reports show that overall, while physical aggression decreases during childhood, indirect aggression increases, although a majority of the sample have consistently low levels.[20-22] Girls show a greater overall tendency than boys to increasingly use indirect aggression with age from 4 to 8 years.[22] When looked at in terms of the joint amount of indirect and direct aggression, girls are more likely than boys to show high indirect aggression together with low or medium declining physical aggression; boys are more likely to have low indirect aggression together with medium declining physical.[22]

Although physical aggression shows a decline with age, its severity – in terms of the injuries inflicted – increases, to a peak in late teenage and early adult years, as assessed by violent crime and homicide statistics. This peak is almost entirely male, both in terms of its perpetrators and its victims.[1-4,6,7] These violent crimes have their roots in influences that begin at conception and continue thereafter, making it more likely that the individual will follow a violence-prone pathway.[8,9]

Serious forms of violence begin to decline in the late twenties, as do other forms of physical aggression,[6] and continue thereafter, with the sex difference maintained into middle life.[6] There are few studies of aggression in old age, although what evidence there is indicates that the typical sex difference in physical aggression is still found at ages 65 to 96 years.[23-25]

Research Gaps

There is no definitive answer to the extent to which early sex differences are dependent on prenata *androgens*.[26] Although there are some studies of mediators of sex differences in aggression[27-28] these are relatively limited.

Conclusions

Sex differences in physical aggression are found early in childhood, and are maintained through childhood into adulthood. There is a smaller difference for verbal aggression. Girls show more indirect aggression throughout childhood, in particular in adolescence. These overall differences hide specific groups, for example a persistently aggressive group that contains a higher proportion of boys and a consistently non-aggressive group that contains a higher proportion of girls.

Implications

The early development of sex differences in aggression implies that they are not the result of socialization influences. A few particularly aggressive boys contribute disproportionately to problem behaviour in schools, and girls' higher level of indirect aggression has a negative impact on social life in schools.

References

1. Courtwright DT. *Violent land: Single men and social disorder from the frontier to the inner city*. Cambridge, MA: Harvard University Press; 1996.
2. Daly M, Wilson M. Killing the competition: Female/female and male/male homicide. *Hum Nat.* 1990;1(1):81-107.
3. Quetelet A. *Recherches sur le penchant au crime aux différents âges*. Bruxelles: M. Hayez; 1833 (Trans by S.F. Sylvester as Research on the Propensity for Crime at Different Ages, Cincinnati, Ohio: Anderson; 1984).
4. Eisner M. Long-term historical trends in violent crime. In: Tonry M, eds. *Crime and Justice: A Review of Research. Volume 30*. Chicago: The University of Chicago Press; 2003: 83-142.
5. Hirschi T, Gottfredson M. Age and the explanation of crime. *Am J Sociol* 1983;89 (3):552-584.
6. Archer J. Sex differences in aggression in real-world settings: A meta-analytic review. *Rev Gen Psychol*. 2004;8(4):291-322.
7. Archer J. Does sexual selection explain human sex differences in aggression? *Behav Brain Sci*. 2009;32(3):249-311.
8. Tremblay RE, Japel C, Perusse D, et al; The search for the age of 'onset' of physical aggression: Rousseau and Bandura revisited. *Crim Behav Ment Health*. 1999;9(1):8-23.
9. Tremblay RE. Developmental origins of disruptive behaviour problems: the 'original sin' hypothesis, epigenetics and their consequences for prevention. *J Child Psychol Psychiatry*. 2010;51(4):341-367.
10. Hay DF, Ross HS. The social nature of early conflict. *Child Dev*. 1982(1);53:105-113.
11. Hay DF, Castle J, Davies L. Toddlers' use of force against familiar peers: A precursor of serious aggression? *Child Dev*. 2000;71(2):457-467.
12. Campbell A, Shirley L, Caygill L. (2002). Sex-typed preferences in three domains: Do two-year-olds need cognitive variables? *Br J Psychol*. 2002;93(2):203-217.

©2012-2026 ABILIO | AGGRESSION

13. Baillargeon RH, Zoccolillo M, Keenan,K, et al; Gender differences in physical aggression: A prospective population-based survey of children before and after 2 years of age. *Dev Psychol.* 2007;43(1):13-26.

14. Archer J, Côté S. Sex differences in aggressive behavior: A developmental and evolutionary perspective. In: Tremblay R, Hartup WW, Archer J, eds. *Developmental origins of aggression*. New York: Guilford; 2005: 425-443.

15. Tremblay RE., Côté S. Development of sex differences in physical aggression: The maternal link to epigenetic mechanisms. *Behav Brain Sci.* 2009;32(3):290-291.

16. Archer J, Mehdikhani M. (2003). Variability among males in sexually-selected attributes. *Rev Gen Psychol.* 2003;7(3):219-236.

17. Archer J, Coyne SM.. An integrated review of indirect, relational, and social aggression. *Pers Soc Psychol Rev.* 2005;9(3):212-230.

18. Björkqvist K, Lagerspetz KMJ, Kaukiainen A. Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggress Behav.* 1992:18(2):117-127.

19. Bjorkqvist K, Österman K, Kaukiainen A. The development of direct and indirect aggressive strategies in males and females. In: Bjorkqvist K, Niemela P, eds. *Of mice and women: Aspects of female aggression*. San Diego, CA: Academic Press; 1992: 51-64.

20. Vaillancourt T, Brendgen M, Boivin M, Tremblay RE. A longitudinal confirmatory factor analysis of indirect and physical aggression: Evidence of two factors over time. *Child Dev.* 2003;74(6):1628-1638.

21. Vaillancourt T, Miller J, Fagbemi J, Côté S., Tremblay RE. T trajectories and predictors of indirect aggression: Results from a nationally representative longitudinal study of Canadian children aged 2-10. *Aggress Behav.* 2007;33(4):314-326.

22. Côté S., Vaillancourt T, Barker T, Nagin D, Tremblay RE. The joint development of physical and indirect aggression: Predictors of continuity and change during childhood. *Dev Psychopathol.* 2007;19(1):37-55.

23. Morales-Vives F, Vigil-Colet A. Are there sex differences in physical aggression in the elderly? *Pers Individ Dif.* 2010;49(6):659-662.

24. Walker S, Richardson DS, Green LR. Aggression among older adults: The relationship of interaction networks and gender role to direct and indirect responses. *Aggress Behav.*2000;26(2):145-154.

25. Vigil-Colet A, Lorenzo-Seva U, Codorniu-Raga MJ, et al; Factor structure of the Buss-Perry Aggression Questionnaire in different samples and languages. *Aggress Behav.*2005;31(6):601-608.

26. Hines M. Sex-related variation in human behaviour and the brain. *Trends Cogn Sci.* 2010;14(10):448-456.

27. Moffitt T, Caspi A, Rutter M, Silva PA. *Sex differences in antisocial behaviour: Conduct disorder, delinquency and violence in the Dunedin Longitudinal Study*. Cambridge, UK: Cambridge University Press; 2001.

28. Campbell A, Muncer S. Can 'risky' impulsivity explain sex differences in aggression? *Pers Individ Dif.* 2009;47(5):402-406.

©2012-2026 ABILIO | AGGRESSION