ENCYCLOPEDIA
on Early Childhood
Development

[Archived] Aggression as an Outcome of Early Childhood Development: Comments on Tremblay , Keenan, and Ishikawa and Raine

DaleF. Hay, PhD

Cardiff University, Wales

April 2003

Introduction

These three papers highlight the importance of infancy and the early childhood years for our understanding of aggression. The authors have all made important contributions to the study of the early origins of aggression, and highlight the central question for debate: Do children need to learn to be aggressive, for example, by copying aggressive models? Or is aggression part of a fundamental way of dealing with the social world in early childhood? With respect to these two possibilities, we may ask the following question: Are individual differences in levels and patterns of aggression are present in the early childhood or do they gradually emerge during the course of childhood and adolescence? And if very young children differ in their levels of aggression, are these differences attributable to genetic factors or to early medical and social risk factors?

Research and Conclusions

Tremblay notes the strong support for the notion that aggression and violence are learned in the course of development, citing the US National Academy of Sciences Panel. He then cites evidence that runs counter to this claim. For example, there is evidence in normative populations that whereas exposure to aggressive models increases over the course of childhood, the frequency of aggression declines with age. There appears to be a normal rise and fall in the frequency of aggression, with a peak around 2 ½ years of age. Thus, Tremblay draws attention to the spontaneous use of aggression in very early childhood, arguing that the main learning task for young children is to learn how to interact with others without using aggression. Keenan echoes this view, arguing that "children are socialized to unlearn aggressive patterns of behavior."[1] These arguments resonate with longstanding philosophical concerns about the nature of early development and the role of nature and nurture in human aggression. However, the evidence needed to test these claims (such as the effect of modelling processes) is lacking. Classic social learning studies on the contribution of modelling processes to the development of aggression have tended to focus on older age groups. Rarely has there been a systematic analysis of the learning processes underlying aggression in the earliest years of life, when aggression first enters the behavioural repertoire. Rather, studies of imitation in the toddler years have tended to examine children's general capacity to imitate models, as a part of general cognitive development, but have not specifically explored the imitation of aggression.

Tremblay and Keenan do not cite evidence from genetic studies, but it is well known that antisocial behaviour runs in families, and that twin studies reveal the importance of the home environment as well as genetic predispositions. The implication of these findings is that antisocial parents may foster aggression not just by transmitting their genes but also by creating environments that promote aggression. It seems likely that aggressive models may be especially important at the point in development when physical aggression is at its peak — at 2 years of age, but this consideration deserves further study.

Both Tremblay and Keenan draw attention to the fact that aggression is common and normal in late infancy and early childhood. However, it may be important to distinguish the capacity for aggression from the frequency of its use. With the exception of Tremblay's longitudinal study of a birth cohort in Quebec, the available evidence on early aggression derives from small-scale observational studies of infants and toddlers at home or in daycare centres. These studies found that most toddlers engaged in conflicts with peers and siblings, but that physical aggression was,

in fact, a minority phenomenon, less common than prosocial behaviour, even in children under 3 years of age.[1] Indeed, generally speaking, toddlers tend to interact with peers and siblings in peaceful ways, and aggression is not the fundamental way in which they relate to others. Thus, it is important to note that the extensive use of aggression is not normal, even in the earliest years of life. Keenan argues for the importance of identifying features of *atypical aggression* in early childhood, although she acknowledges the risk of *pathologising* normal behaviour. I believe that we must balance this risk against the possibility of designing effective prevention and early intervention strategies. Early aggression deserves to be taken seriously.

Ishikawa and Raine provide important factual information that reminds us that physical as well as social experiences shape our lives. Exposure to a number of substances in prenatal life promotes externalizing problems in general while promoting aggression in particular. The children of mothers who drink alcohol, smoke cigarettes, or take cocaine are at risk of developing disruptive behaviours. An impressive element of Ishikawa and Raine's paper is their attention to analogous findings in experimental literature on animals, which highlights some potential causal mechanisms. Of course it is clear that antisocial mothers may be especially likely to expose a fetus to risk in this way, which raises the possibility that these findings represent genetic influence. Our recent analyses of links between prenatal smoking and the symptoms of Attention Deficit Hyperactivity Disorder (ADHD) in the Welsh Twin Study show that effect of smoking remains, even when genetic factors are taken into account.[2] Thus, the findings highlighted by Ishikawa and Raine are most likely true environmental effects.

Nonetheless, as Ishikawa and Raine show, prenatal insults do not act alone. They emerge in a context of social risk factors. Thus, it may be possible to study a developmental pathway whereby antisocial parents expose their children to increased risk of developing antisocial behaviours by failing to promote fetal health during pregnancy and by providing aggressive models and/or ineffective socialization strategies in the toddler years. It is also possible that social disadvantage may promote similar risks, even when parents do not, themselves, have a history of antisocial activities. To test these possibilities, it is important to follow Keenan's recommendation that the developmental study of aggression commence during pregnancy.

Implications for Policy and Services

Tremblay and Keenan draw attention to the importance of early childhood education in promoting alternatives to aggression. Ishikawa and Raine note that improved medical care may also be an

important policy goal. These comments reveal an important requirement for effective policies regarding the prevention of aggression and violence: Policy initiatives must be undertaken to improve the provision of existing medical, educational, and social services. Some degree of lateral thinking should also be enlisted to devise effective policies that can bridge these traditionally separate areas of service provision.

Policy-based research that includes cross-national comparisons may be useful in identifying the advantages and disadvantages of particular evidence-based prevention and intervention strategies. For example, in the United Kingdom, the current *Sure Start* programme brings together medical and educational initiatives; the evaluation of Sure Start should focus on the prevention of aggression in particular and might be useful in comparisons with programs in other countries. In the UK, care by midwives during pregnancy and postnatal health visits are offered through the National Health Service to provide support to families before and after birth. This instituted service could also be used as a framework in which to promote foetal and infant health and effective socialization. Although policy regarding aggression and violence must take into account local issues (such as the major problems deriving from gun ownership in the US as opposed to other Western countries), cross-national comparisons may reveal dimensions that underlie effective prevention and intervention strategies across geographical and cultural boundaries.

References

1. Hay DF, Castle J, Davies L. Toddlers' use of force against familiar peers: a precursor of serious aggression? *Child Development* 2000;71(2):457-467.
2. Thapar A, Fowler T, Rice F, Scourfield J, van den Bree M, Harold G, Hay DF. Smoking in pregnancy and attention deficit hyperactivity disorder symptoms. Manuscript submitted for publication.