ENCYCLOPEDIA on Early Childhood Development

The Development and Socialization of Aggression During the First Five Years of Life

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Introduction

Preschoolers who have not successfully developed age-appropriate strategies for regulating aggressive behaviour are at high risk for engaging in chronic aggressive and antisocial behaviour. Aggression co-occurs with several common problems in early childhood including impulsivity, emotion dysregulation and language delays, and is a common reason for clinical referral. Exactly how these other problems interact with aggression is still under investigation. Aggression may be worsened by these co-occurring problems in some children. In other children, deficits in these other areas of functioning may have preceded the difficulties with aggression. Aggression problems typically develop in the context of interactions between biological and social risk factors, learning history, and parent behaviours.[1]

Subject

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Major developments in cognitive and social-emotional domains occur during early childhood. Regarding cognitive development, the emergence of increasingly sophisticated verbal skills, self-awareness and goal-directed behaviour contribute to a strong push for independence on the part of the child. Simultaneously, parents begin to impose rules and limits, both in response to the child's newfound autonomy and as a natural part of the socialization process. Clashes between the child's self-assertions and a parent setting limits lead to more frequent episodes of frustration and upset. Thus, some aggressive behaviour in response to frustration is developmentally typical early in life. Emerging skills appear to influence the trajectory of early aggression. For example, a child's increasing ability to regulate attention and negative emotions, inhibit impulsive responding, and draw on social communication to resolve conflict or express needs provide a foundation for utilizing behaviours other than aggression in response to frustration, anger, fear, etc. In fact, the intensity of anger response in toddlers exposed to frustrating tasks is associated with levels of aggression later in childhood.[2] Assessing a child's developmental skill set is important for determining whether delays in other areas of functioning should be addressed.

Problems

Defining atypical aggression during the preschool years has been controversial,[3] due in part to reluctance to label or diagnose young children or apply developmentally inappropriate concepts from the literature on aggression in older individuals. Aggression has been broadly defined in the developmental and abnormal psychology literature,[4] resulting in a set of behaviours that range from typical and adaptive to atypical and maladaptive. We now know that young children who are manifesting high levels of aggression are at high risk for continued problem behaviour and are in need of services.5,6 Aggressive behaviour is associated with deficits across a range of developmental domains (e.g., physical, social, cognitive) and can be exacerbated by co-occurring problems. For example, delays in language development may impede communication of needs, impair the socialization of empathy and emotion regulation, and negatively impact peer relations. Language delays also contribute to social skills deficits that may lead to increased aggression into middle childhood.[7]

Key Research Questions

Aggressive behaviour emerges early,[8] and even these early forms can persist and become problematic.[1,4,5] Moreover, high levels of aggression occurring as early as the toddler period, is

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predictive of later disruptive behaviour disorders.[9] As a result of these findings, a greater appreciation has been developed for the capacity of studies of chronic aggression in young children to inform research on the causes of serious aggression. Many critical deficits that establish the foundation for persistent or problematic aggressive behaviour emerge during the first five years of life.[10] Dysregulated emotion, inattention, impulsivity and other developmental delays, particularly in the domain of social communication, likely influence the course of aggressive behaviour. Gene-environment interactions are also likely to be an important influence. For example, serotonin transporter gene haplotypes appear to moderate the effect of unsupportive early parenting on noncompliance and aggression.[11,12] Given the heterogeneity in presentation of early aggression, characterization of risk factors and co-occurring problems should be key research targets.

Recent Research Results

Within the past decade, evidence has been accumulating to clarify subtypes of aggression, the relative influences of some risk factors such as callous-unemotional (CU) traits, and the influence of child maltreatment on development of aggressive behaviours.

Children exhibiting CU traits demonstrate higher risk of developing reactive aggression in adolescence, but the contribution of CU traits to relational aggression appears to be moderated by presence of comorbid internalizing problems.[13] Moreover, early-onset of antisocial behaviours including aggression is a better predictor of adolescent and early adulthood antisocial behaviour than the presence of CU traits.[14] Trauma and maltreatment have long been identified as important correlates of aggression in youth, and recent evidence in a Norwegian sample suggests that children who have experienced abuse (i.e., physical, emotional, or sexual) are more likely to develop aggression than children subjected to neglect or non-maltreated children. These data are limited by a homogeneous sample, and because this sample included many children older than age five.[15] However, a larger and more diverse study demonstrated that a particular form of child maltreatment (chronic exposure to community violence) was associated with development of aggression even in children as young as age three, potentially due to emotional desensitization to violence.[16]

The intergenerational transmission of severe aggressive behaviour is likely driven by interactions between assortative mating, genetics, and social-environmental influences, rather than any one risk factor in isolation.[17] Several child traits have been identified as moderators of the

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development of aggression, including IQ, effortful control of emotions/behaviours, theory of mind, understanding of emotions, and hostile attribution bias.[18]

Intervention

Aggression in preschool-aged children is not considered a mental health condition or diagnosis per se but is typically addressed in the context of interventions for other conditions such as externalizing problems, disruptive behaviour disorders, or psychiatric and developmental comorbidities. For example, reducing problems with aggression in the context of a developmental delay typically requires interventions targeted at the delay, not simply at reducing the aggressive behaviour. Psychopharmacology, behavioural and family-based therapies, and broader early-intervention services are frequently used to target aggression in this population. Early intervention programs that are not *specifically* targeted toward aggression, such as Head Start, have demonstrated beneficial effects on aggressive behaviour.[19] Much of the evidence supporting the efficacy of psychopharmacology for preschool aggression is based on trials of treating co-occurring mental health and psychiatric conditions.[20]

Psychotherapeutic interventions for reducing and preventing aggression in young children have typically been evaluated as part of larger treatment protocols for externalizing behaviours. Within this literature, individual and group-based parent behaviour therapies are recognized as well-established evidence-based treatments.[21] *Time-out from positive reinforcement*, (an operant conditioning procedure typically referred to as simply “time-out”) is among the safest and most effective interventions to reduce preschool aggressive behaviours when used by a parent/caregiver in a planned, predictable manner in combination with other behavioural management strategies. Time-out appears to be particularly effective at addressing child behaviours that are intentionally oppositional, and there do not appear to be immediate or long-term side-effects associated with its use.2[2,23] In addition to strong evidence supporting its effectiveness, time-out is compatible with behavioural, family-systems, attachment-based, and trauma-informed approaches to discipline.[24]

Research Gaps

Two areas of research are still in early stages of development. The first is the understanding sex differences in early aggression. Numerous studies demonstrate sex differences in the continuity of early aggression.[25] Research on sex differences in the characterization of co-occurring

problems with aggression will contribute to the ability to propose causal models of chronic aggression across development. One example of such a study is by Hill and colleagues[26] of more than 400 preschool girls and boys from ages 2-5 years. Poor emotion regulation and inattention at age 2 were important predictors of chronic and clinically significant levels of aggression and defiance for girls, whereas inattention was a predictor for boys.

The second area is identifying subgroups of aggressive children who demonstrate specific patterns of co-occurring behaviours and corresponding alterations in biological systems. For example, heart rate and skin conductance have been used to differentiate subtypes of aggression that demonstrate different patterns of co-occurring problems in older children.[27] Testing such hypotheses in younger children may help disentangle whether the autonomic arousal is a cause or an effect of aggression.

Conclusions

Aggression develops early in life and in most cases demonstrates a gradual decline over the first five years of life. Most children learn to inhibit aggressive behaviours and replace them with prosocial skills that develop over the course of early childhood. Some young children engage in aggression that is pervasive, frequent and severe. Persistent aggression that emerges during the first five years of life is impairing and associated with later mental disorders, poor social outcomes, and accumulation of deficits. Problematic early aggression typically develops as a result of interactions between risk factors, social learning processes, and other environmental influences.[1] Comorbidities are common in the context of persistent and high aggressive behaviour including language problems, impulsivity, hyperactivity, poorly regulated negative emotions and defiance. Although the direction of effect (i.e., which problem came first) is not always evident, the co-occurrence argues for a comprehensive assessment of developmental functioning when concerns about early aggressive behaviour arise.

Implications

Although the first five years of life is a period of risk for the development of persistent problems with aggression, this same period can be viewed as the optimal opportunity for supporting the development of emotional and behavioural regulation and communication to increase the probability of healthy social development. Pathological patterns of aggression can be effectively treated with behavioural modification, family therapies, and medications in the context of

effective management of comorbid medical, psychiatric, and developmental problems. Developmental progression along cognitive, emotional, behavioural and social domains should be assessed systematically and regularly throughout the first five years of life. Because of the interrelatedness of each of these domains on the acquisition of prosocial skills, delays in one dimension could affect development in others, resulting in an accumulation of deficits. The encouragement of use perspective taking, emotion and behavioural regulation, delay of gratification, and effortful control are associated with declines in aggression. Therefore, significant delays or deficits in the basic psychological processes that support these areas of growth will impede the normal decline in aggression observed over the first five years of life. Any effective intervention for aggression will require an assessment of deficits across domains, and additional supports to address such deficits.

References

1. Trentacosta CJ, Hyde LW, Shaw DS, Dishion TJ, Gardner F, Wilson M. The relations among cumulative risk, parenting, and behavior problems during early childhood. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*. 2008;49(11):1211–1219. doi:10.1111/j.1469-7610.2008.01941.x

2. Liu C, Moore GA, Roben CKP, Ganiban JM, Leve LD, Shaw D S, Natsuaki MN, Reiss D, Neiderhiser JM. Examining Research Domain Criteria (RDoC) constructs for anger expression and regulation in toddlers. *Journal of Psychopathology and Clinical Science*. 2022;131(6):588-597. doi:10.1037/abn0000658

3. Campbell SB. Behavior problems in preschool children: A review of recent research. *Journal of Child Psychology and Psychiatry*. 1995;36:113-149.

4. Tremblay RE, Japel C, Perusse D, Boivin M, Zoccolillo M, Montplaisir J, McDuff P. The search for age of "onset" of physical aggression: Rousseau and Bandura revisited. *Criminal Behavior and Mental Health*. 1999;9:8-23.

5. Fergusson DM, Horwood LJ & Ridder EM. Show me the child at seven: The consequences of conduct problems in childhood for psychosocial functioning in adulthood. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*. 2005;46(8):837-849.

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doi:10.1111/j.1469-7610.2004.00387.x

6. Kretschmer T, Hickman M, Doerner R, Emond A, Lewis G, Macleod J, Maughan B, Munafò MR, Heron J. Outcomes of childhood conduct problem trajectories in early adulthood: Findings from the ALSPAC study. *European Child & Adolescent Psychiatry*. 2014;23(7):539-549. doi:10.1007/s00787-013-0488-5

7. Petersen IT & LeBeau B. Language ability in the development of externalizing behavior problems in childhood. *Journal of Educational Psychology*. 2021;113(1):68–85. doi:10.1037/edu0000461

8. Landry S & Peters RD. Toward an understanding of a developmental paradigm for aggressive conduct problems during the preschool years. In: Peters RD, McMahon RJ, Quinsey VL, eds. *Aggression and violence throughout the life span.* Newbury Park: Sage Publications; 1992:1-30.

9. Keenan K, Shaw DS, Delliquadri E, Giovannelli J, Walsh B. Evidence for the continuity of early problem behaviors: Application of a developmental model. *Journal of Abnormal Child Psychology*. 1998;26:443-454.

10. Keenan K. Uncovering preschool precursors to problem behavior. In: Loeber R, Farrington DP, eds. *Child delinquents.* Newberry Park, CA: Sage Publications, Inc; 2001: 117-136

11. Sulik MJ, Eisenberg N, Lemery-Chalfant K, Spinrad TL, Silva KM, Eggum ND, Betkowski JA, Kupfer A, Smith CL, Gaertner B, Stover DA, Verrelli BC. Interactions between serotonin transporter gene haplotypes and quality of mothers' parenting predict the development of children's noncompliance. *Developmental Psychology*. 2012;48(3):740-754. doi:10.1037/a0025938

12. Sulik MJ, Eisenberg N, Lemery-Chalfant K, Spinrad TL, Silva KM, Eggum ND, Betkowski JA, Kupfer A, Smith CL, Gaertner B, Stover DA, Verrelli BC. "Interactions between serotonin transporter gene haplotypes and quality of mothers' parenting predict the development of children's noncompliance": Correction to Sulik et al. (2012). *Developmental Psychology.* 2013;49(6):1026-1026. doi:10.1037/a0032762

©2022-2026 ABILIO | AGGRESSION

13. Fanti KA, Kimonis E. Heterogeneity in externalizing problems at age 3: Association with age 15 biological and environmental outcomes. *Developmental Psychology.* 2017;53(7):1230-1241. doi:10.1037/dev0000317

14. Hyde LW, Burt SA, Shaw DS, Donnellan MB, Forbes EE. Early starting, aggressive, and/or callous–unemotional? Examining the overlap and predictive utility of antisocial behavior subtypes. *Journal of Abnormal Psychology.* 2015;124(2):329-342. doi:10.1037/abn0000029

15. Augusti E-M, Baugerud GA, Sulutvedt U, Melinder A. Maltreatment and trauma symptoms: Does type of maltreatment matter? *Psychological Trauma: Theory, Research, Practice, and Policy.* 2018;10(4):396-401. doi:10.1037/tra0000315

16. Kennedy TM, Ceballo R. Emotionally numb: Desensitization to community violence exposure among urban youth. *Developmental Psychology*. 2016;52(5):778-789. doi:10.1037/dev0000112

17. Tremblay RE, Vitaro F, Côté SM. Developmental origins of chronic physical aggression: a bio-psycho-social model for the next generation of preventive interventions. *Annual Review of Psychology*. 2018;69(1):383-407. doi:10.1146/annurev-psych-010416-044030

18. Choe DE, Lane JD, Grabell AS, Olson SL. Developmental precursors of young school-age children's hostile attribution bias. *Developmental Psychology*. 2013;49(12):2245-2256. doi:10.1037/a0032293

19. Gershoff ET, Ansari A, Purtell KM, Sexton HR. Changes in parents' spanking and reading as mechanisms for Head Start impacts on children. *Journal of Family Psychology*. 2016;30(4):480-491. doi:10.1037/fam0000172

20. Nevels RM, Dehon EE, Alexander K, Gontkovsky ST. Psychopharmacology of aggression in children and adolescents with primary neuropsychiatric disorders: A review of current and potentially promising treatment options. *Experimental and Clinical Psychopharmacology.* 2010;18(2):184-201. doi:10.1037/a0018059

©2022-2026 ABILIO | AGGRESSION

21. Kaminski JW, Claussen AH. Evidence base update for psychosocial treatments for disruptive behaviors in children. *Journal of Clinical Child & Adolescent Psychology.* 2017;46(4):477-499. doi:10.1080/15374416.2017.1310044

22. Knight RM, Albright J, Deling L, Dore-Stites D, Drayton AK. Longitudinal relationship between time-out and child emotional and behavioral functioning. *Journal of Developmental and Behavioral Pediatrics.* 2020;41(1):31-37. doi:10.1097/DBP.0000000000000725

23. Larzelere RE, Knowles SJ, Henry CS, Ritchie KL. Immediate and long-term effectiveness of disciplinary tactics by type of toddler noncompliance. *Parenting*. 2018;18(3):141-171. doi:10.1080/15295192.2018.1465304

24. Dadds MR, Tully LA. What is it to discipline a child: What should it be? A reanalysis of time-out from the perspective of child mental health, attachment, and trauma. *The American Psychologist.* 2019;74(7):794-808. doi:10.1037/amp0000449

25. Keenan K, Shaw D. Developmental and social influences on young girls' early problem behavior. *Psychological Bulletin*. 1997;121:95-113.

26. Hill AL, Degnan KA, Calkins SD, Keane SP. Profiles of externalizing behavior problems for boys and girls across preschool: The roles of emotion regulation and inattention. *Developmental Psychology*. 2006;42:913-928.

27. Scarpa A, Haden SC, Tanaka A. Being hot-tempered: autonomic, emotional, and behavioral distinctions between childhood reactive and proactive aggression. *Biological Psychology.* 2010;84:488-496.

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