

# Aggression During Early Years – Infancy and Preschool

Pratibha Reebye, MBBS<sup>1</sup>

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## ABSTRACT

**Introduction:** This review explores the meaning and origins of aggression in early years. Eight pathways to aggression with origins in early childhood are suggested. These include: the contribution of individual factors; the effects of disturbed family dynamics; parental characteristics and parenting practices; the impact of exposure to violence and the influence of attachment relationships. Other influences such as: aggression relating to psychiatric/medical syndromes; the influence of neurodevelopment pathways and psychodynamic explanations, such as aggressive behavior in relation to mothers' reflective capacity are also discussed. **Conclusion:** While several routes to aggression have been proposed, no single factor is sufficient to explain the development of aggressive behavior. Longitudinal studies are sorely needed to observe aggressive behavior in children and to monitor their developmental trajectories.

**Key Words:** infants and preschoolers, aggression, pathways.

## RÉSUMÉ

**Introduction:** Cette revue de littérature traite de la signification et de l'origine des comportements d'agression chez le jeune enfant. Nous nous pencherons sur huit trajectoires possibles de ces comportements qui prennent racine dans le tout jeune âge, étant dépendantes de facteurs intrinsèques, de la dynamique familiale, de la personnalité même du parent et des aptitudes de ce dernier. Nos traiterons également des comportements d'agression liés à des pathologies psychiatriques ou médicales particulières, de maturation du système nerveux central et de la dynamique entre les capacités des mères à réfléchir sur elles-mêmes et les comportements d'agression chez l'enfant. **Conclusion:** Bien que plusieurs modèles aient été proposés pour expliquer l'émergence de ces comportements d'agression, aucun à lui seul ne permet d'en comprendre le développement. Pour bien connaître comment se développent ces comportements, des études longitudinales et prospectives demeurent nécessaires.

**Mots-clefs:** jeunes enfants, enfants d'âge préscolaire, agression, trajectoires.

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## INTRODUCTION

Aggression during early childhood is not taken seriously and is often considered a part of growing up. To understand this, one needs to examine the central theme of aggression, individual versus social-cultural aspects of aggressive behavior, and the meaning of aggression.

Aggression can be understood in various ways. It can be conceptualized as a personality trait or having origins within a difficult temperament. In other words aggression may be inherent to the individual. Another view of aggression identifies it as a symptom with or without intention or adaptive function. Aggression may also reflect a behavioral pattern that can be attributed to a syndrome, such as Lesch-Nyhan syndrome. A wide spectrum of aggressive behavior is possible in the preschool age group.

The definition of aggression proposed by Shaw et al. (2000b) is accepted for the purposes of this paper. Shaw et al. described early aggressive behavior as an "act directed toward a specific other person or object with intent to hurt or frighten, for which there is a consensus about the aggressive intent of the act" (p. 398).

The principle of universality would suggest that children of all cultures should exhibit some degree of aggression as a developmental path and progression rather than as the exclusive expression of environmental factors. There are, however, notable exceptions to this hypothesis. Pygmies of Africa, Mennonites, the Amish and Hutterites of North America do not readily engage in physical violence (Moghaddam et al., 1992). Nevertheless,

many other children do live with violence and will be subjected to aggression at some point in their lives (Perry, 1997). Both acculturation and cultural social codes may determine the extent of exposure to aggressive events and the levels of expressed aggression among young children.

The temper tantrum of the 'terrible twos' is generally a universally accepted notion. The aggression associated with these tantrums (kicking and throwing things), is therefore better tolerated. The notion of specific developmental periods when an increase or decrease in aggression is expected is supported. Tremblay (2002) studied a sample of Canadian children and reported that the vast majority of children reduced the frequency of their physical aggression from the time they began school until the end of high school. These findings are consistent with the results of other longitudinal surveys (Choquet and Ledoux, 1994). Fagot and Hagan (1991) also noted that there was a differential pattern in aggressive acts during the early years; aggressive young toddlers had brief interactions, whereas older toddlers engaged in aggressive acts for longer periods.

Clinicians and researchers agree that problematic expression of aggression is related to disinhibition and poor self-regulation. As capacity for self regulation and inhibition is being modulated in the first 30 months the frequency of physical aggression increases and then decreases steadily (Tremblay et al., 2004).

Several points need to be considered before identifying aggressive behavior as a disorder. The typical rough and tumble play of preschoolers forms a scaffolding to support prosocial assertive play. What distinguishes playful fighting

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<sup>1</sup>BC Children's Hospital, Infant Psychiatry Clinic, Vancouver, BC  
Corresponding author: preebye@cw.bc.ca

from aggressive behavior is the lack of intent to hurt or frighten. During the preschool years, children tend to resort to instrumental and physical expression of aggression such as snatching toys and pushing a playmate. Hostile aggression that is exhibited as aggressive behavior directed to others, such as name-calling, criticizing and ridiculing, comes much later, at around 7 years of age (Coie and Dodge, 1998).

Aggressive symptoms may change with developmental competence in motor and cognitive domains. A motorically competent toddler can throw objects at siblings with intention to hurt, and an irritable, frustrated preschooler can easily poke his peer with a crayon.

Poor impulse control often underlies aggression. Regulatory controls gradually begin in the prenatal period with the development of physiological or state regulation, attentional mastery, and emotional regulation; especially self-soothing or help seeking when upset. In the preschool period this self-regulatory capacity may be aided by increased cognitive competence (Posner and Rothbart, 2000) or possibly made worse by cognitive limitations.

The current literature suggests that aggression starting at an early age continues throughout development (Campbell, 2002; Shaw et al., 1996). Understanding the developmental trajectories of aggression is one way to study aggression (Tremblay, 2004). Approximately thirty-eight years ago, Lee Robins conducted the first follow-up of children seen at child guidance clinics and discovered that problem children can become problem adults (Robins, 1966). Meta analytic studies have confirmed high stability coefficients for aggressive behavior (Olweus, 1979), but the jury is still out on whether there is one or multiple pathways that promote early aggressive behavior into later violent behavior. Generally, early aggressive behavior is predictor of later aggressive behaviors.

There is no prototypic aggressive preschooler. The origins of aggression in early childhood, is revealed by a review of the following pathways.

#### **PATHWAY 1: INDIVIDUAL FACTORS**

*Intrauterine environment.* The emerging literature on behavioral teratogenicity is worthy of serious consideration. In a Danish cohort, maternal prenatal smoking was linked to arrests for violent and non-violent crimes in males (Brennan et al., 1999). Preschoolers prenatally exposed to alcohol were found to be hyperactive, have frequent temper tantrums (amounting to impulsive aggressivity), and have difficulties with transitions (Olson et al., 1992). The effects of violence on pregnant women with resultant neurohormonal changes in the maternal fetal axis has also been reported. Research has also demonstrated that antisocial behavior with attendant hypo sensitivity to stress is correlated with lower levels of corticotropin releasing hormone (CRH) during pregnancy (Susman, 1999).

*Gender differences.* When gender specific forms of aggression are considered, there is evidence to suggest that girls are as aggressive as boys (Moretti and Odgers, 2002). Girls tend to engage in relational aggression while males tend to display overt aggression, both forms of aggression are equally hostile. The results of pre-school studies indicate that girls display

higher levels of relational aggression than boys, and the gender difference is well established by middle childhood. Onset and developmental trajectories are different between boys and girls. Although boys exhibit more physical aggression in early childhood, which decreases over time, girls display the opposite pattern, with low levels of aggression during early childhood only to peak much later (Moretti and Odgers, 2002).

*Temperament and emotional traits.* The emotional life of infants and preschoolers is quite rich. Feelings of anger, rage, and shame with lack of empathy has been shown to occupy a central role in the emotional experiences of aggressive infants and preschoolers (Kaufman, 1996). Infants with difficult temperaments are more likely to be aggressive and have behavioral difficulties in later childhood (Kingston and Prior, 1995).

#### **PATHWAY 2: DISTURBED FAMILY DYNAMICS, PARENTAL CHARACTERISTICS, AND PARENTING PRACTICES**

There are both direct and indirect effects of disturbed family dynamics on aggression. Parental characteristics are connected to a child's behavior problems and to the promotion of a child's healthy development.

The presence of siblings who serve as a target for aggression is an indirect effect and increases the risk of becoming physically aggressive in the high aggression trajectory group (Tremblay et al, 2004). Well noted direct risk factors in the high aggression trajectory group include: maternal age, alcohol and tobacco use during pregnancy; maternal antisocial history during school years; antisocial fathers and inter-parental conflict (Kupersmidt et al., 1995; Hawkins et al, 1998, Tremblay et al., 2004). Preschoolers coping with high levels or intensity of family conflict struggle emotionally and may express their hostility physiologically through heart rate activity or skin conductance response. El-Sheikh et al, (1994) monitored preschoolers for heart rate and skin conductance whilst they were watching an angry interaction between two adults. Girls from high conflict homes exhibited more heart rate reactivity to the argument. For boys, physical violence in the home was negatively associated with heart rate reactivity. These boys also exhibited higher skin conductance responses.

Lamb (1987) emphasized father's role in a child's healthy development. Reports of deviant parental models are more frequent with aggressive children. The link between parental antisocial attitudes and violent behavior of children has been reported. (Hawkins et al, 1998) Tremblay et al (2004) noted that the relationship between a father's antisocial behavior and childhood aggression was weaker when compared to the association with maternal criminal history. The authors did recognize the limitations of this finding in that this could be the result of their reliance on mother's reports.

The effects of parental mental illness and aggression are also reported (Webster-Stratton and Hammond, 1988). The combination of a depressed mother's emotional unavailability, her difficulties in teaching self-regulation to her children and focusing negative attention on undesirable behavior are all associated with aggression (Webster-Stratton and Hammond, 1988; Webster-Stratton and Herbert, 1994). Research findings

have consistently suggested that mothers with hyperactive, aggressive children are more impatient, power assertive and less consistent (Campbell, 1995; Patterson et al., 1989).

Dynamic tensions between a mother and child may also result in aggressive behavior among preschoolers. Child-related factors include difficult temperament, irritability, anxious attachment and extrinsic motivation. Mother-related factors include nonresponsive parenting, difficulty in parenting, inability to control the child, or the use of coercive control, harsh discipline or shame and humiliation. These factors result in the disengagement of the dyad, with resultant bi-directional developmental sequences (Shaw et al., 2000a).

### **PATHWAY 3: EXPOSURE TO VIOLENCE AND BEHAVIORAL AGGRESSION**

Young children can experience both direct and indirect effects of violence. They remain vulnerable targets of violent events, especially in the context of violence within the family (Straus, 1974). Most serious physical abuse occurs in the first year of a child's life. Young children exposed to trauma engage in destructive behaviors more than their non-maltreated peers. Physically abused children and youth have been shown to engage in other-directed destructive behaviors while sexually maltreated children have been found to engage in more self-directed destructive behaviors (Taussig and Litrownik, 1997). Children who are spanked show more aggressive behavior towards their peers (Strassberg et al., 1994).

Preschoolers who witness their parent's death through violence exhibit a mixture of emotional and behavioral disturbances and are at risk for developing aggressive behavior (Payton and Krockner-Tuskan, 1988). They often develop a conflicting sense of loyalty, and can even develop aggressive behavior as if to identify with the aggressor (Van Dalen and Glasserman, 1997).

*Violence in the media.* The results are mixed regarding the effects of TV viewing by preschoolers. The important findings suggest that when a program provokes aggressive fantasies, preschoolers seem to be most susceptible. The impact of aggressive content can be toned down if children view TV with a trusted adult who can guide them. Studies have suggested a causal direction from heavy TV viewing to aggressive behavior (Fried et al., 2000; Gupta et al., 2001; Silvern and Williamson, 1987; Singer and Singer, 1981).

### **PATHWAY 4: LIVING IN VIOLENT NEIGHBORHOODS**

Children living in violent neighborhoods are aptly described as children living in urban war zones (Garbarino et al., 1991). They face a two-fold problem; these children lack prosocial adult role models to guide them and they do not have the opportunity to develop internalized self-control through developmentally appropriate play. Absence of competent, involved caregivers to provide supervision induces some children to create their own pseudocommunity and acquire protection elsewhere through antisocial groups.

Community violence is shown to affect the violent behavior of preschoolers in a differential manner. Those who witness violence seem to show internalized symptoms while those children who were victimized by violence exhibit externalizing

behaviors (Guerra et al., 2003; Shahnifar et al., 2000).

Finally, Loeber and Hay (1994) found that nondeviant peers both rejected children who showed early signs of conduct problems, and attributed aggressive meanings to the normal behaviors of deviant children. Targeted children also saw aggressive motives in others. Gradually, these targeted children became involved in deviant peer groups themselves. This landmark study illustrated how a child's peer group can contribute to the stability of aggression over development.

### **PATHWAY 5: ATTACHMENT RELATIONSHIPS**

The attachment system between infant and caregiver is essentially a biologically based regulatory system. Attachment is the cornerstone for security and comfort. During the attachment process children learn to develop self-regulatory capacity for both affect and behavior (Weinfeld et al., 1999).

Attachment relationships are important for promoting experience dependent brain maturation. In the context of early infancy most of these experiences are happening in mother/caregiver- infant dyadic interaction. The care giving experiences provided accelerate neuronal activity and synaptic connections. Lack of care giving experiences, such as is experienced in neglectful situations, promotes the phenomenon of "pruning", where programmed cell death is brought about (Siegel, 2001). The orbitofrontal region of the brain is particularly dependent on experience-dependent stimulation. In contrast, experience-expectant processes are genetically driven and require minimum specific environmental stimulation.

In sub optimal instances of infant-mother attachment, insecure attachment can take many forms, including the disorganized-disoriented type (D pattern). The child who is disorganized in attachment experiences frightened, frightening or disoriented behavior from the caregiver (Main and Hesse, 1990). This attachment pattern is found to be associated with childhood aggression.

Disorganized attachment emanates from early maternal neglect and later parental abuse. This may lead to insufficient regulation of infant rages with resultant unmodulated aggression (Schore, 2001) (Lyons-Ruth, 1996).

Aspects of the intergenerational violence pattern must also be noted. If the caregivers are frightened, or frightening (abusive) and have unresolved trauma, then their caregiving pattern can be affected, carrying forward a dysfunctional parenting style and inducing disturbances of attachment in their progeny.

### **PATHWAY 6: AGGRESSION RELATED TO PSYCHIATRIC/MEDICAL SYNDROMES**

Aggressive behavioral patterns span different diagnoses in preschoolers. In a referred clinic sample of 79 preschoolers ranging in age from 2 1/2 to 5 1/2 years old; 59.5% met criteria for oppositional defiant disorder, 41.8% met criteria for conduct disorder and 59.5% met criteria for one of the three subtypes of ADHD (Keenan and Wakschlag, 2000). Similarly, the 0-3 Diagnostic Classification recognizes newly emerging aggression toward peers, adults and animals, and restricted affect range as a symptom of posttraumatic stress in infants (National Center for Clinical Infant Programs, 1994). Behavioral aggression in preschoolers can also present as part of other established neuro-

psychiatric disorders where a prefrontal dysfunction model is suggested (Raine, 1998). This is also reported in children with autism spectrum disorders, and Tourette's disorder.

#### **PATHWAY 7: NEURODEVELOPMENTAL PATHWAYS INFLUENCING SELF-REGULATION AND ESPECIALLY IMPULSE CONTROL**

Although regulatory processes start prenatally, toddlerhood marks one of the most important periods in the acquisition of self-control. From then onwards, increased cognition rules self-regulation. Infants at one year of age begin to engage in effortful control; that is the ability to inhibit a dominant response to perform a subdominant response involving executive functioning in prefrontal cortex and associated areas (Mirsky, 1996; Rothbart and Bates, 1998). One aspect of self-regulation, emotionality and regulation of emotions has been linked to the development of behavior problems. For example, Calkins et al. (1999) found that toddlers' negative emotionality was positively related to peer conflict in a lab setting.

According to Perry (1997), core neurobiology is determined by early life experiences. The absence of optimal motor, sensory, emotional, cognitive, and social experiences during infancy and childhood can result in underdevelopment of the cortical, subcortical and limbic areas. This results in a decreased capacity to moderate frustration, impulsivity, aggression and violent behavior (Perry, 1997).

Several neurotransmitters, hormones and the autonomic nervous system have also been implicated in the development of aggression in general (Coie & Dodge 1998).

#### **PATHWAY 8: PSYCHODYNAMIC MODELS**

Sometimes a child may not be aggressive at all. The caregiver may, however, perceive the child as violent and uncontrollable. At other times, the caregiver may not be able to teach self-modulation techniques to their child in spite of their best efforts. These observations are partially explained by maternal representations, especially the affective tone (Zeanah and Benoit, 1995); maternal reflective capacity (Fonagy et al, 2002); narrative coherence regarding attributes from events in a mother's life (Main et al., 1985) and maternal projections (Cramer, 1995). The reflective capacity of the mother is crucial in the mother's ability to observe the child's mental state and see her child as an intentional being (Fonagy et al, 2002). This experience of being perceived as an intentional being is a precursor to developing reflective capacity in relationships, and is pivotal in understanding feeling states, developing empathy and internalizing social codes, all essential features for socialization of aggressive impulses.

#### **CONCLUSION**

No single pathway is sufficient to explain the development of aggressive behavior, nor is there a single prototype of an aggressive preschooler. New research findings reveal that the critical window for intervention should be in early years (Tremblay et al., 2004). There are still many unanswered questions. Why are some children resilient? Which pathway to aggression has the most impact and which is most predictive? Aggression may have a genetic component, and similarly, the environment in which an infant/preschooler is raised may influence the development of

aggressive tendencies. Researchers today are emphasizing the interplay between genetics, the environment and developmental influences. Caution must nevertheless be exercised in making simplistic statements about genetic and environmental causes when explaining the origins of aggression (Rutter, 2002). The eight pathways reviewed are related to the early routes of aggression in infants and preschoolers. This is by no means an exhaustive list of factors related to the origins of aggression in early years. However, it does provide us with an opportunity to offer programs for prevention and intervention that will preserve the uniqueness of the child.

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