



Violence Prevention through Early Childhood Interventions

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The Bottom Line

Scientific evidence on child development has emphasized the importance of comprehensive attention for the child beginning at gestation. The first eight years of life, and in particular the first three years, are a critical and decisive period for every human being. Early brain development (in utero to age 5-6) can have lasting impact on health, learning, and behavior throughout life.

Longitudinal studies have shown that violent behavior in adulthood can be prevented through teaching young children socio-emotional skills and non-violent alternatives to resolving conflict (Tremblay, 2000/2008). Youth violence prevention is most effective when it begins before children turn five.

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Violence Prevention through Early Childhood Interventions

Introduction

Young children exhibit physical aggression more frequently during the preschool stage than in other stages. Studies show that for most children, physical aggression begins to diminish when they turn two or three, as they learn to regulate and express their emotions, and in particular through language. However, a small percentage (5 – 10%) do not learn to properly regulate and express their emotions and have a higher probability of serious issues in the future, such as substance abuse, difficulties at school, mental illness and criminal behavior.

Recent research indicates that aggression appears at an early age (Tremblay, 2000/2008). For example, experts have shown that infants less than two months old show expressions of anger vocally and through facial expressions. Physical aggression appears between six and twelve months, when children have developed sufficient motor control, and they frequently occur as a response to a frustration. Between years one and two, children tend to use physical aggression to get what they want. One of these forms of aggression is the temper tantrum (explosive expressions of anger). Hitting is the most common form of aggression in two and three year-olds. At age four or five, physical aggression of most children tends to diminish.

This is due in part to the growth of the frontal cortex of the brain, which is responsible for controlling reactions to strong emotions, such as aggressive ones. It is thus expected that *by age four*, most children will not use physical aggression regularly. *If they do, then professional help should be sought.* However, as physical aggression diminishes at this age, so indirect and verbal aggression tends to increase. Longitudinal studies in Canada, New Zealand and the United States suggest that

aggression can be as stable over the life-span as intelligence. Those children who present a stable trajectory of high physical aggression during preschool ages, will have a higher probability of showing violent delinquent behavior during adolescence. Those identified as most aggressive at age eight tended to be the most aggressive twenty years later, regardless of changing contexts. In the Canadian and US studies, boys were more likely to continue a high trajectory of physical violence than girls. (See Tremblay 2000/2008).

Studies suggest that although there may be genetic variations in our natural aggressive tendencies, in most cases, the environment can play a crucial role (more so than genetic predispositions) in promoting or curbing these tendencies (Mustard,2005).

Many children learn to regulate their aggression through adults teaching them the basic principles of social interaction and other alternatives to resolve conflict, manage their anger and achieve their objectives. However, if children grow up in environments where aggression is reinforced, perceived as effective, and commonly used, even by the parents themselves, to achieve objectives (for example, through the use of physical punishment), then children will have less chance to learn the skills they need and show a higher propensity for chronic physical aggression. Children who have suffered abuse or rejection tend to have similar problems with aggression. In other words, aggressive parents may likely reinforce the natural aggressive tendencies of their children, reducing the chances children may have for positive models to learn to regulate their own aggressive impulses.

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What is Aggressive Behavior? (Chaux, 2005; Tremblay, 2008)

Behavior carried out with the intent of harming.

Physical: such as hitting, pushing, biting, object throwing.

Verbal: such as using hostile words to threaten, insult, intimidate or make another person angry. It is often followed by physical aggression.

Indirect: trying to harm another by spreading a rumor, humiliation or exclusion from a group – to isolate the victim socially. It is the most complex form of aggression and is most common among adults.

Proactive: without provocation, as a means to achieve an objective (such as grabbing a toy from another child).

Reactive: as a reaction to an accidental or non-accidental threat or provocation (such as hitting a boy because he grabbed a toy).

How Early Could Violence Prevention Start?

Research shows that violence prevention can start *before a child has been born*. Most of brain and nervous system development occurs in the uterus. A healthy development is required for children to learn to control their anger and other potentially negative impulses. Pregnant women should avoid consumption of alcohol, tobacco and cocaine, as they are related to a high risk of developmental and behavioral problems, and to the child's later involvement in juvenile delinquency. To ensure healthy fetus development, pregnant mothers must also strive for balanced nutrition, rest, stress avoidance, and no exposure to toxins and other adverse substances (pesticides, herbicides, etc.). So, the first step in violence prevention is to work with pregnant women, their families and friends, to ensure an optimal fetal environment.

To maximize effectiveness, interventions to curb physical aggression should start *before children turn five*.

Is Violence Prevention in Early Childhood more Effective than at Other Age Levels?

Early childhood education investments are among the most powerful, evidence-based approaches to preventing enduring aggressive patterns and possibly delinquency. Research shows that interventions with aggressive adolescents can actually increase the possibility of criminal behavior, while interventions with preschool age at-risk children tend to show beneficial effects in the long-term. In addition to criminal behavior, aggression has been linked as a risk-factor with other problem behaviors, such as poor academic performance, school drop-out, health problems and substance abuse.



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Some Lessons Learned

The family environment in which children grow up is related to their social and emotional development. Stimulation and caring are crucial for small children's development. Stimulation can be achieved through playing, music, physical activity and interaction with others. Adults should intervene to support non-violent behavior and dissuade aggressive actions. Adults should be clear about not accepting aggressive behavior, or rewarding it, and should also stimulate their children to develop alternative strategies that are not aggressive.

Research shows that parents who tend to raise more socially adapted children are usually involved in their children's education, are caring and supportive, sensitive to their children's needs. On the other hand, parents who are negligent, distant, insensitive, who scold often, and are reactive tend to have children with more problems related to aggression (see Shaw, 2007).

Families that interact with each other in aggressive ways on a regular basis, are teaching their children that this form of interaction is appropriate. This aggressive interaction, in its more extreme form, can be violent, which in turn will tend to promote aggressive and even violent child and adolescent behaviors. Abuse has been consistently identified as a risk factor for aggressive behavior.

The development of social and emotional skills. As children learn these skills (should they have the opportunity), physical aggression diminishes. Some of these skills include: identifying their own emotions and those of others, cooperating with others, expressing their emotions constructively, negotiating, reconciling after conflict, and approaching others to play.

Language development is key as it offers an alternative tool to express frustration and anger. The less a child has developed linguistic abilities, the more frequently he or she will continue to employ physical aggression.

A healthy diet is also crucial. Children's brains and nervous systems continue to grow and develop as they grow, and a balanced diet is fundamental for this healthy development. Nutritional deficiencies in small children are related to a higher propensity to aggression, as well as other issues, such as cognitive deficiencies. For example, aggressive behavior and emotional regulation issues have been linked with low levels of serotonin in children's brains (the amino acid tryptophan, which the body cannot produce, but is found in most protein-based foods, is needed for serotonin synthesis).



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What Can Violence Prevention Programs for Early Childhood Achieve?

There have been few studies of programs that aim to reduce aggression in early childhood. However, the available research evidence suggests that programs for this age group can provide important support to reduce aggression or the risk factors for it (such as abuse), and, thus, also reduce the risk of chronic aggression and youth delinquency.

Programs may need to include multiple targets (parents, children and teachers). Highly aggressive children may also need long-term support, with [different interventions](#) (home, school, peer)

being necessary as they develop and move into different contexts.

Researchers agree that much work remains to be done to answer [key questions](#) such as: (1) what are the most efficient and effective intervention programs for different types of aggressive children, (2) what mechanisms and outcomes targeted by these programs are key to preventing long-term aggression and (3) what child, family or school risk factors moderate the effects of these programs (Tremblay, 2008).

An example: The High/Scope Educational Research Foundation's Perry Preschool Project (Ypsilanti, Michigan, USA).

In 1962, children of ages three and four from poor African-American families attended a preschool program that focused on their cognitive, language, social, and behavioral development. The High/Scope model emphasized active child-initiated learning, problem-solving, decision-making, planning, and a high degree of interaction between adults and children and among the children themselves. In addition, teachers conducted weekly home visits and encouraged parents to be involved as volunteers in the classroom (Berruta-Clement et al, 1984). For a more detailed description see: <http://www.highscope.org/>.

Several longitudinal studies of these children (at age 15, age 19, age 27, age 40) have consistently revealed that those who participated in this program committed fewer crimes than others with similar characteristics who did not participate

(and showed higher graduation rates, among other indicators). *The at-risk children who did not attend the program were five times more likely to be chronic offenders by age 27 compared to similar children who did participate.* A difference was found in studies even in comparison to other children who participated in other programs which provided “direct instruction in which teachers led the activities, workbooks were the only classroom materials, and the acquisition of academic skills was the prime objective”. This suggests that a child-directed curriculum (as the one High/Scope provides) could make a significant difference in preschool, especially in terms of social development.²

Video: Lasting Differences: [The High Scope Preschool Curriculum Comparison Study Through Age 23](#)

2. Taken from: <http://mentalhealth.samhsa.gov/schoolviolence/part2chp7.asp> / <http://www.fightcrime.org/releases.php?id=453>
http://fightcrime.org/issue_earlyed.php

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There are multiple other available programs that have shown effective results. Some of these are:

- a). *The Montreal Prevention Experiment*, a multi-component program in which the most antisocial children were split up and placed as the minorities in groups with highly pro-social children, this also included home visits, among other program components (Chaux, 2005).
- b). *Classrooms in Peace* (Aulas en Paz and Aulitas en Paz) a Colombian initiative based on research findings, which is also now being piloted in Mexico (Ramos, et al., 2007). See further reading section for more program information, such as Slaby, et al. (1995) Sparling, et al. (2007), UNICEF/CINDE (2007), Bryant (video, 2003).

How Can Policies Help?

Improve provision of medical, educational and social services at the early childhood level, especially for at-risk communities, with a preference for comprehensive services.

A Few Initial Questions for Policymakers

a). Is there an early childhood care and education policy currently in place?

If so, is it comprehensive, integrated and multisectoral in approach, taking into account nutrition, stimulation, education, the role of family and the community, and development of social-emotional skills? Does it consider child abuse prevention and child protection?

b). Could prevention of aggression be incorporated into that policy as a priority?

c). What would the characteristics of that policy be?

d). Does early-start integral prevention consider:

- Pre-natal care?
- Support for at-risk families and communities?
- Prevention and attention to child abuse
- High-quality and economically accessible preschool?

e). What training and on-going support, especially for caregivers and educators, would need to be provided to carry out this policy effectively?

f). What monitoring would need to be put in place for caregivers, parents and institutions to ensure the policy is implemented as intended?

g). What evaluation would be required to assess the effectiveness of the implementation and its results?

h). What educational resources, media, and other tools could be used to support policy initiative(s)?

Costs

The costs of programs or policy initiatives would vary depending on context and scale. However, research suggests a high return on investment in high quality early childhood education and care programs. Funds spent on aggression prevention at an early age reduce costs associated with law enforcement, criminal processing and punishment, as well as social costs.

In Canada, researchers have found that for every dollar invested in prevention programs at the preschool level, the return rate is seven dollars when that child is young, and thirteen dollars when s/he is an adult. As another example, Perry Preschool Project has been credited with reducing the cost of delinquency and crime by approximately \$2,400 per child. (See also Lynch, 2004).

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Further Reading

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2. Lynch, R.G. (2004). *Exceptional returns: Economic, fiscal, and social benefits of investment in early childhood development*. Washington, D.C.: Economic Policy Institute.
3. Ramos, C., Nieto, A.M. & Chaux, E. (2007). Aulas en Paz: Resultados preliminares de un programa multi-componente. *Revista Interamericana de Educación para la Democracia*, 1, 36-56. www.ried-ijed.org
4. Shaw, D. (2007). *Les programmes de soutien parental et leur impact sur le développement socio-affectif des jeunes enfants*. Dans: Centre d'excellence pour le développement des jeunes enfants (CEDJE). Enciclopedia sur le développement des jeunes enfants. <http://www.enfant-encyclopedie.com/pages/PDF/ShawFRxpParents.pdf>
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6. Sparling, J., Ramey, C.T. and Ramey, S.L. (2007). The Abecedarian Experience. In Young, M.E. and Richardson, L. (Eds.). *Early Child Development: From Measurement to Action*. The World Bank: Washington, DC, pp 103-130.
7. Tremblay, R. E. (2000). The development of aggressive behaviour during childhood: What have we learned in the past century? *International Journal of Behavioral Development*, 24, 129-141.
8. Tremblay, R.E., Gervais, J., Petitclerc, A. (2008). *Early Childhood Learning Prevents Youth Violence*. Montreal, Quebec. Centre of Excellence for Early Childhood Development (CEECD) (in English, Spanish, French and Portuguese).
http://www.excellence-earlychildhood.ca/documents/Tremblay_AggressionReport_ANG.pdf
9. UNICEF & CINDE (2001). *Experiencias significativas de desarrollo infantil temprano en América Latina y el Caribe: Seis estudios de caso*. Panamá: UNICEF. CINDE.

Videos with Supporting Evidence:

(a) Brain Development and Youth Crime and Violence Prevention [[Live video and presentation](#) aprox. 58 min]. **Dr. Fraser Mustard** (Canadian Institute for Advanced Research) & Miriam Rollin (Fight Crime: Invest in Kids) (2005). Explores solid evidence that predisposition to anti-social behaviors and crime and violence is set and dependent on experience-based brain development during the first years of life. Miriam Rollin translates the science to policy recommendations.

(b) [Home Visiting - Donna Bryant + Highlights, Banff 2003](#). (CD-ROM: 65 min + 11 min, 2003) – must be ordered.

Donna Bryant reviews the state of current scientific knowledge regarding prenatal and post-natal home visiting programs throughout the world.

<http://www.excellence-earlychildhood.ca/videosCDRoms.asp?lang=EN>