

Violence in kindergarten

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■research Why do some young men end up in prison, for committing violent crimes? Psychologist Richard Tremblay of the University of Montreal, Canada, discovered that the key lies in early childhood, and even earlier. This week, he visited Groningen.

// RENÉ FRANSEN

About halfway his talk, Richard Tremblay shows some video footage. Toddlers, two, maybe three years old pushing each other, fighting over a toy, one banging the other on the head with a stool. Scenes full of violence and shouting in French, as a couple of normal Canadian kids engage in brutal acts of theft and aggression. Tremblay is very pleased with modern presentation software that allows him to show these clips during a talk, last Tuesday, on 'Developmental origins of aggression' at the Department of Psychiatry of the University of Groningen. "I always found it difficult to show how aggressive young children can be just by using photographs."

Tremblay has been studying the origins of aggressive behaviour for over twenty years. "At the start of my career, I worked in a prison treating mentally ill inmates. What brings these people here, I wondered." Scientists have long pondered this question. Crime statistics show a rapid increase in criminal actions in adolescence, peaking at about 20 years of age. After that, as people grow older, crime rates slowly drop. This age crime curve was first described in detail in 1831. It was believed that boys learn to be criminals in their teens. Another explanation is that an increase in the male hormone testosterone at puberty sparks off the criminal behaviour of these kids. That would also neatly explain the difference in criminal activity between males and females.

After three years 'in prison', Tremblay became a research scientist and set out to test these hypotheses. He did so by following some 1000 children from age six until adulthood. School teachers rated their behaviour. "The results were a big surprise". Tremblay ex-

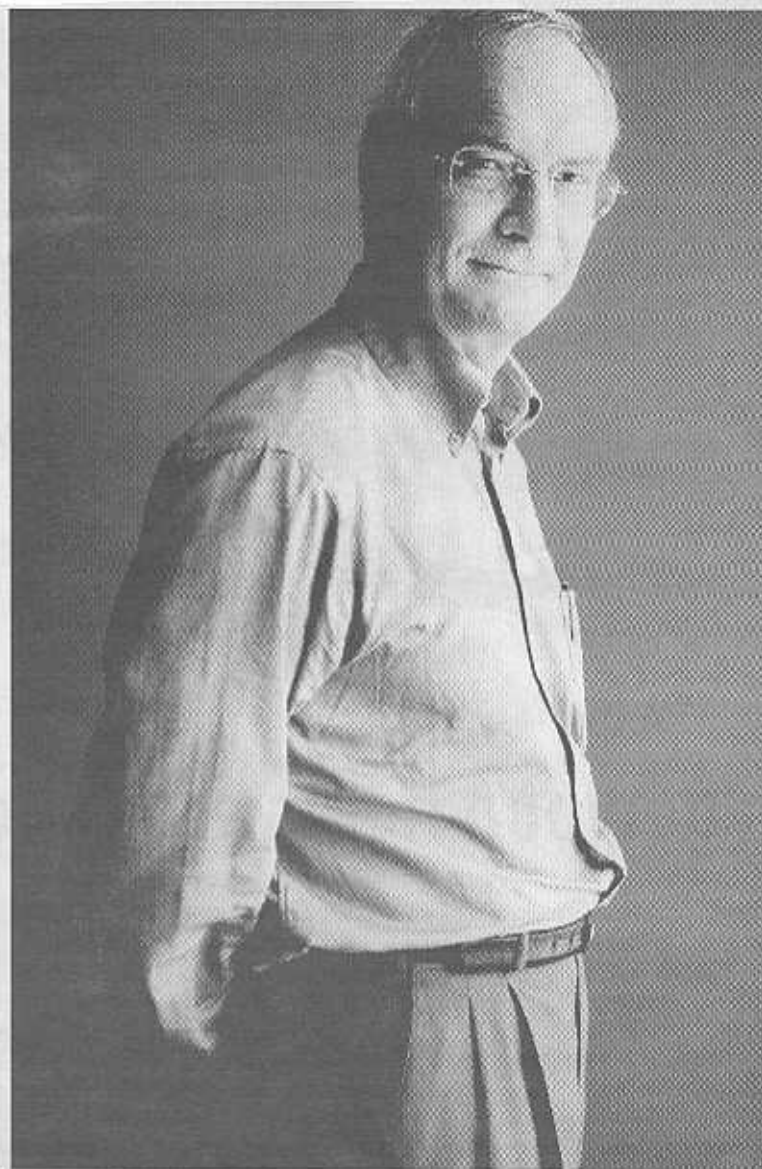
plains. "We saw no change at all in mean aggression. Actually, they seemed to become less aggressive over time." He did a further analysis, grouping his subjects into several groups with varying levels of aggression at the start of the study. Next, he plotted the level of aggression over time for each group. This showed that all children maintained the same level of aggression throughout the study. Those who were most aggressive at six were also most aggressive at 20. The group made up of the most aggressive four percent tended to show a slight increase in aggression at about 15 years of age. "That's when children get more freedom, so they can do more bad things."

When Tremblay looked at younger children, he found that the frequency of aggressive behaviour peaks at about two to two and a half years of age. "So the peak in aggression is in kindergarten. These children are stealing toys from each other, hitting the child that won't let go." His conclusion, therefore, is that aggression is not learned in later life. On the contrary, aggression is normal for toddlers, who then have to learn to control their behaviour. If they don't, they end up in the most aggressive group and will stay there into adulthood. "The best predictor of aggression in later life is a mother with a low level of education or a teenage mother." These mothers cannot teach their children to control their impulses, and they raise aggressive children, some of whom will turn to criminal behaviour.

But what about the crime statistics? They're not wrong, Tremblay explains, but they are not good measures of aggression. "These statistics are about arrests. If you're an aggressive four-year-old, you don't get arrested. That happens when you're big enough to be noticed by the police."

Still, many institutions still believe that criminal behaviour is learned by teenagers. In fact, a recent publication by the World Health Organization says as much, states Tremblay. "They took their data from the Surgeon General of the USA, the country's chief health officer. Apparently, it takes a long time for research results to reach the clinics."

He then reveals one more bit of evidence from his research group, to be published shortly. The chance



Richard Tremblay // Photo Reyer Boxem

of the first child of a mother with low socio-economic status becoming aggressive is low if the child attends child care at an early age. If the mother looks after the child until it goes to school, aggressive behaviour is most likely. "But with a competent mother, sending the child to kindergarten has no effect on behaviour. The environment reduces aggression."

After the talk, before going on to give a similar lecture to the University's Studium Generale, Tremblay explains that he is now conducting an intervention study. "We did an intervention at age six or seven, and that reduced aggression in these children. The effect remained throughout the study; they are now in their twenties." Tremblay hopes that intervention at an earlier age, starting even before the child is born, will be even

more effective. "I started working with delinquents in prison. I believe the best way to tackle the problem is by targeting the young women who will carry the children of these delinquents."

He doesn't believe in reform camps for young delinquents. "In these camps, you put a lot of dysfunctional adolescents together. But their behaviour is contagious and they come out worse." Intervening early can have profound effects. Animal studies show that good care in infancy can permanently alter the expression of genes. "We're doing genetic studies now, and they show great differences between highly aggressive and moderately aggressive men. We hope that with our interventions, we can influence these genetic changes in young children and correct their behaviour."