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HEADLINE: Scientists identify gene link to violence
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BODY:
Scientists have identified a gene that plays a role in the cycle of violence in men abused in childhood. The discovery could explain why some survive unhappy childhoods and go on to normal lives, while others turn to violence, crime or antisocial behaviour.

But it will also stoke the long-simmering row about the influence of nature and nurture in criminal behaviour.

Terrie Moffitt and Avshalom Caspi, both of King's College London and the University of Wisconsin, Madison, and colleagues, report in Science today that one common form of a gene that acts on enzymes in the brain makes men more likely to be violent - but only if they have experienced cruelty or rejection in childhood.

The researchers followed up the life histories of 442 boys, with British or European grandparents, born in Dunedin, New Zealand, in 1972. Of these, 154 had been maltreated in the first 10 years, 33 of them severely. They had either experienced sexual abuse, beatings or rejection by mother or foster parents.

Of the 154 maltreated children, 55 had a less active variant of a gene called MAOA, which controlled the balance of neurotransmitters in the brain, and 99 had the more active variant.

The 55 young men were more than twice as likely to have been involved in antisocial behaviour than the other mistreated group. They made up 12% of the total, but were responsible for 44% of all crimes committed by the entire cohort of 442 young men.

Prof Moffitt stressed a "violence" gene had not been discovered. Boys with the less active version who were not maltreated during childhood lived perfectly normal lives.

"It is very common in the population. One third of us have it," she said. "So the gene apparently doesn't do much of anything, it doesn't cause a handicap in any way, unless we are also maltreated."

The discovery might help explain why violence tends to be male rather than female - the gene is found on the X chromosome. Men have only one copy of the X chromosome, women have two.

The gene might also be a predictor for the ability to tolerate mental stress or trauma. The military, the police or firefighters might screen recruits to see if they have the more active form. But the discovery also raises the spectre of biology as destiny, and the argument that people with the less active form of the gene could be social risks, to be treated with drugs.

"This research can easily play into the tendency to fix social problems by medicalising them," said David King of the UK pressure group Human Genetics Alert.