

From the cradle to criminality

What makes a violent criminal?

Dr Simon Wessely on research that throws new light on this question

There are few more controversial areas of research than the causes of violent crime, which so often come down to polemics on the lines of nature versus nurture.

Simple genetic explanations, such as the claim that violent males had an extra Y chromosome, are now discredited. Nevertheless, more careful work has continued to support the idea of a genetic contribution. Much of this research has taken place in Scandinavia, not because the Swedes or Danes are more violent, but because those countries possess superb data systems, including twin registers, essential for the conduct of proper genetic research.

Studies comparing identical and non-identical twins, and also the outcome of adopted children, have provided convincing evidence of a modest genetic contribution to crime. Another line of inquiry has looked at the effect of early brain damage, such as might be acquired at birth, and found a link with later violent crime.

that those who had experienced birth complications alone did not have an increased risk of violent offending.

Those whose birth had been normal, but had suffered parental rejection, which the researchers defined as either an unwanted pregnancy, failed attempts to abort the pregnancy, or the infant being sent to a public institution in the first year of life, were also no more at risk.

However, those who had both a difficult delivery and then had experienced parental rejection were substantially more likely to end up with a conviction for violent offences.

Furthermore, difficult deliveries combined with parental rejection was associated later only with violent crime and not crime in general.

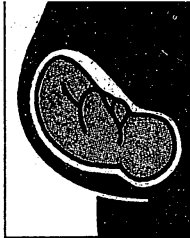
This research is a milestone in understanding the links between early environment and later behaviour. The authors postulate that birth complications result in early, albeit slight, brain damage that is associat-

Nowadays nobody would claim that either genetics or brain damage is the cause of violent crime or that social factors such as the family environment are unimportant. There is no doubt that the ways parents deal with their children play a crucial role in the development of criminal behaviour. Modern researchers no longer ask the question of nurture versus nature, but instead how nurture influences nature — what factors are involved in the pathways from birth to later criminality.

A report in the latest issue of *Archives of General Psychiatry* provides one answer. Adrian Raine and colleagues at the University of Southern California have studied all the 4,269 males born at the maternity hospital in Copenhagen between 1959 and 1961. The Danish hospitals keep meticulous records of the circumstances of delivery and any possible complications. One year later all the children were followed up and further information obtained on the home and family circumstances.

The research team then linked this information with the Danish National Criminal Register, which records all police contacts and criminal convictions for all Danish citizens. By the age of 19, 16 per cent of the males had a criminal record, with 3 per cent having a conviction for a violent offence.

Dr Raine, who comes from the North East of England, thus created a unique opportunity to study the links between birth complications, family environment and later violent criminality. He first found



Simple genetic theories are now discredited

ed with difficulties in learning and with self-control. These might lead to later difficulties at school, and then with employment.

Problems start to develop if this predisposition is linked with a disruption to the normal process of bonding between mother and child. Poor early bonding may be associated with later difficulties in emotional relationships, and a reduced capacity to express and feel affection. It is the

combination of the early damage to the central nervous system succeeded by further disruption in the normal development of personality and feeling that is important.

Writing in this week's *British Medical Journal*, David Farrington of the Institute of Criminology at Cambridge, and Professor Jonathan Shepherd, a Cardiff surgeon with an interest in the effects of violence, conclude that although much of the research on crime prevention has concentrated on the availability of weapons and better protection of premises and vehicles, early interventions, such as increasing family support and pre-school education, are also effective in reducing later offending.

The new research from Denmark adds to the case that increasing the care-giving skills of parents at risk might also intervene to break the links between biological predisposition and later violent offending.

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