

What makes a criminal?

Terrie Moffitt investigates whether there is such a thing as a criminal mind, and whether adolescent delinquency forecasts a life of crime. Now, after decades of grappling with these big questions, she has some answers, she tells Dan Jones



OUR attitudes towards crime and punishment are highly political. They often come down to how much we believe a person's particular life circumstances should be taken into account when deciding whether their punishment fits the crime they committed. But criminal justice isn't an evidence-free zone. Behavioural scientist Terrie Moffitt at King's College London has spent her career trying to uncover biological and environmental roots to criminal behaviour. Now she has evidence from brain imaging and genetics to support her idea that there are generally two groups of people who commit crime, each with different causes for their behaviour and different prospects for reform.

Dan Jones: How has the nature-nurture debate influenced views on criminal behaviour?

Terrie Moffitt: Our thinking about the roots of antisocial behaviour has followed pendulum swings between putting nature or nurture centre stage. Writing in the late 17th century, philosopher John Locke came down on the side of nurture, arguing that we are born as blank slates and learn all our behaviours, bad ones included. Then in the 19th century, Cesare Lombroso, the founder

of criminology, suggested that bad people were born that way and could be identified by the shape of their eyes, ears, teeth and eyebrows. By the 1960s, after John Watson and B. F. Skinner developed behaviourism, the pendulum had swung back to nurture.

Everything changed in the 1980s and 90s, and the debates really heated up. Scientists started reporting studies of crime drawing on thousands of twins and adoptees in Scandinavian registers, which seemed to point to genetic transmission of criminal behaviour from parent to child. This was like pouring petrol on a fire, and the nature-nurture debate got vicious. But these studies also made clear that over half the variation in antisocial and criminal behaviour couldn't be explained by genetics, and provided some of the first really solid evidence for the social transmission of crime in families. Since then, nearly everyone has come to agree that crime involves both nature and nurture.

But you think they have been missing something. Can you explain what?

Back in the early 1990s, criminologists knew that male antisocial behaviour is concentrated in adolescence: when you plot crime against age, you get a crime curve that

peaks between 16 and 20 years of age, and tapers off into the thirties and forties. They also knew that fewer than 10 per cent of males commit more than 50 per cent of crimes.

In 1993, I published a hypothesis that the peak of the crime curve conceals two different groups, with different causes for their criminal behaviour. I called one group "life-course persistent offenders". These are people who show extreme and often violent antisocial behaviour that begins in early childhood and continues through adulthood. I thought they would be a minority, at less than 10 per cent, and biological factors along with bad childhoods would play a big role for them. The other group, which I called "adolescence-limited delinquents", show a similar level of antisocial behaviour when they are around 18 years old but grow out of it. I suggested that biology wasn't part of the story for this group. And I expected them to be very common, with teenagers who abstain from offending altogether being the rare ones.

How do you go about testing an idea like this?

You need to follow people for years to identify life-course persistent and adolescence-limited criminals, ideally from birth to

their fifties, measuring antisocial behaviours all along the way. We have been able to do this in the Dunedin Cohort Study, which has followed 1000 New Zealanders from their birth in 1972/73 and who are now in their late forties. And in the past few years, we have used brain imaging and new techniques of whole-genome analysis to look deeper into the biology of crime.

What have you discovered from the brains studies?

When we scanned the brains of the Dunedin study members last year, we found that most of those who were offenders didn't have unusual brains. But people whose antisocial behaviour started in childhood and persisted into adulthood – the life-course persistent group – showed less grey matter in some regions of the cortex, most of which have previously been linked to antisocial behaviour through their involvement in goal-directed behaviour, regulation of emotions and motivation.

Are you saying these people were born with different brains?

It is difficult to say. Had we done the scans when they were small children, we could say whether the brain-structure abnormalities were there before their lives of crime, but the technology wasn't available then. More recent brain imaging of children with callous or unemotional kinds of behaviour – children who hurt other children and apparently lack remorse – has revealed similar brain abnormalities to those we are finding. So it is possible for such brain-structure abnormalities to have been there all along. The persistent offenders in our study also tended to have bad childhoods, which might alter brain development. That muddies the picture.

What have you discovered about genetics and criminality?

In the past decade, new technology has emerged to allow us to simultaneously look at thousands of genetic variants across a person's whole genome, and link genetic markers with specific behaviours. It is hard to

“Societies haven't put as much into rehabilitation programmes as we have invested in prisons”

do this directly for crime because you need huge samples of hundreds of thousands of people that you can divide into persistent and adolescence-limited offenders. You can't just ask people about their early life behaviour as people's memories are too unreliable. And there are no long-term studies tracking this number of people.

So we have turned to other measures, like educational attainment, which has been linked to crime and which most people can and will report when they sign up to services like 23&Me or Ancestry.com. We have used this kind of anonymised genomic data to create what is called a polygenic score for educational attainment, which tots up how many genetic markers known to predict success in education a person has. In our Dunedin study, we found that people who had shown antisocial behaviour that began in childhood and persisted right through adulthood had low polygenic scores – but, just like in the brain-imaging study, these persistent offenders also had bad childhoods.

Might such genes influence criminal behaviour?

Most people with a low polygenic score for educational attainment struggle with self-control all their lives. We have shown that they also tend to start talking late as toddlers, don't use language very well, have difficulty learning to read, have trouble concentrating and controlling their thoughts and struggle to remember facts and figures. So they find school really frustrating and humiliating, and leave it as soon as they can. If they lack qualifications when it comes time to find a job, crime may be their best option. And if you are good at crime, it brings a lot more self-esteem than school does.

Are some people destined for a life of crime?

No. People will turn out just fine as long as they have good parents who provide warm, sensitive, stimulating parenting and lots of consistent, loving discipline, plus the necessary resources for child development, such as nutritious food and encouragement at school. But great childhoods can be in short supply. Deprivation, abuse and neglect allow a child's own personal vulnerability to grow into antisocial and criminal behaviour.

If a small minority of people is biologically predisposed to antisocial behaviour, why is delinquency in adolescence so common?

Adolescence is a tricky time. Many adolescents feel that they have to prove to themselves and other kids that they aren't babies any more, and what better way to do this than to commit a few risky crimes? But most people don't really like to live way out on the edge all the time, and as soon as adolescents enter adulthood, the delinquent lifestyle loses a lot of its appeal. For young people who had warm family relationships, good school grades and clear heads before they became teenagers, it is fairly easy to wake up and walk away from offending – if they have managed to avoid a criminal record.

JAMIE MANNALAMY





Most young offenders won't carry on into a life of crime – but having a criminal record can harm chances of reform

How do you explain the rare adolescents who never choose to transgress?

I originally thought crime was so normal that there must be something unusual about teenagers who abstained, something that cut them off from other people their age. Perhaps they were unpopular, intensely shy, highly anxious or belonged to very strict religious communities.

Here, my ideas haven't stood the test of time very well, because these factors don't account for many abstainers. I seriously underestimated the extent to which many happy, healthy, popular young people just don't want to break the law. It seems likely that in the past, abstainers were more likely to be social outcasts, but somehow adolescent culture has changed.

Have your ideas been picked up by the criminal justice system?

It is a long path from the ivory tower to policy circles. However, my theory has been cited in policy documents, including the 2016 modern crime prevention strategy from the UK's Home Office, and several National Research Council reports to governments in the US. Consistent with my research, these reports stress the need to distinguish

between the few offenders who have adverse backgrounds and a poor prognosis and the many who have ordinary backgrounds and a better prognosis.

Until 2007, Britain had a policy called "all crimes brought to justice" that meant police officers were instructed to arrest any juvenile offender who came to their attention and charge almost all of them forwards to the courts. Today, policing policy has radically changed, and police officers in Britain have the discretion to divert many young offenders away from the courts and the jails, which helps young people avoid a criminal record, gives them room to reform and helps them get employment. There is only a small group that needs to feel the full force of the law, a message that has got through to law enforcement.

Does that mean we should lock those people up for as long as possible?

This is the single most important question. At the moment, that is typically what has to happen to keep the public safe. But societies haven't put nearly as much energy into developing treatments and rehabilitation protocols for persistently antisocial people as we have invested in building prisons.

And very little has been done on effective prevention programmes. Our work suggests that the path to persistent criminality begins in early childhood, which should be a good time to do something about it through interventions in schools and home life. There is ongoing work on prevention programmes, but it is early days.

Can science really change how societies deal with crimes and with the people who commit them?

Policy is determined by more than just evidence. Voters watch crime policy closely, so governments implement lenient or punitive crime policies according to whether their voter base is liberal or conservative. However, every so often, public opinion takes an about-face in reaction to a high-profile event, and that forces change. We are seeing this right now in the Black Lives Matter protests: there is a scramble over policing reform. ■



Dan Jones is a freelance journalist based in Brighton, UK. Follow him on Twitter @multipledraftz