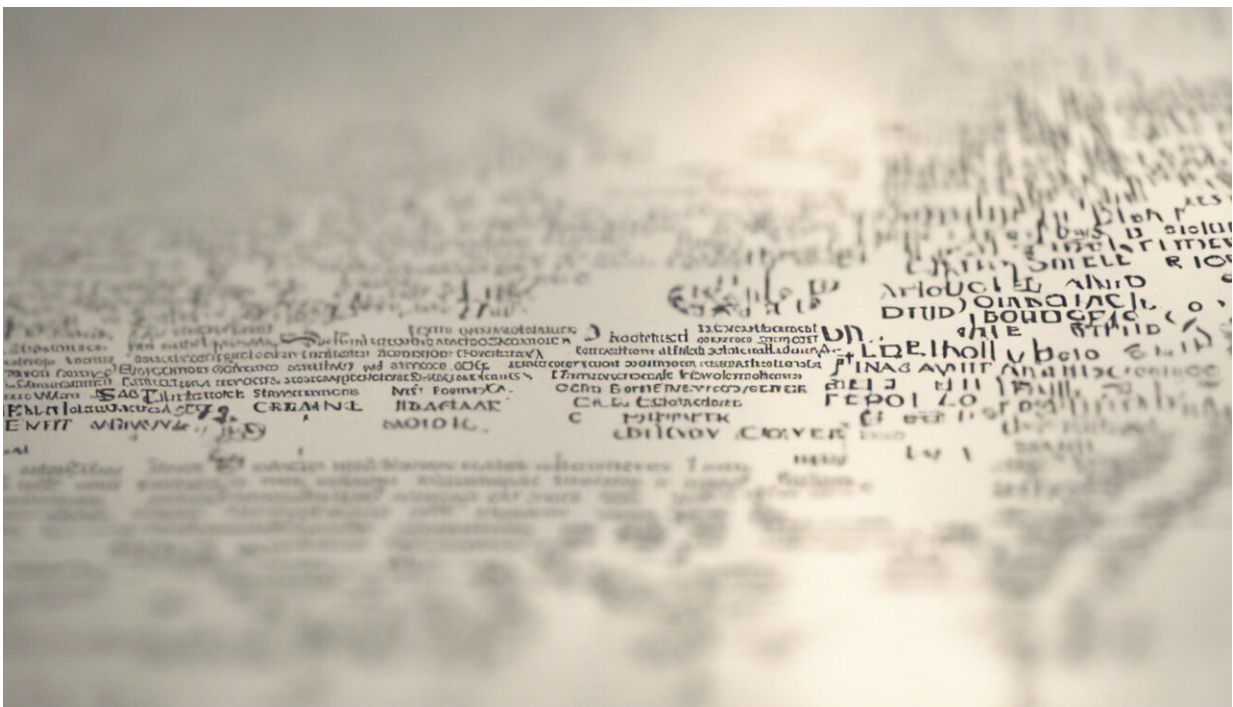


My genes made me do it—the problem of genetic evidence and diminished culpability

December 4 2015, by Sophia-Louise Frentz, Colin Gavaghan And Katarina Schwarz



Credit: AI-generated image ([disclaimer](#))

There have been recent high-profile claims suggesting genetics and neuroscience are set to radically change the way we think about crime and punishment. Author Sam Harris, for example, [argues](#) that recent discoveries in neuroscience undermine our notion of free will, while

Adrian Raine [states](#) there is a "biological basis also to recidivistic violent offending".

But are our notions of blame and responsibility really heading for a revolution?

To answer that, it's necessary to understand a bit about how the law works today. Legal guilt typically requires more than just a physical act. It usually also relies on the concept of *mens rea* or "guilty mind". You may have struck someone, for example, but if you did so because of a muscle spasm, seizure or reflex, then you won't be held legally responsible.

The law also makes allowance for those who act while insane. "Cognitive insanity" is when someone cannot know the nature and consequences of their actions. This may also be a temporary state, such as [sleepwalking](#) and [hyperglycemia](#).

The second form of insanity is more controversial. This exists if you were aware of your action, but couldn't control the urge to do it. This "volitional" form of insanity is not recognised everywhere, though it is in [many Australian states](#).

The insanity defence usually removes all culpability. Diminished capacity, on the other hand, suggests a decreased ability to understand actions and thus decreased responsibility. Punishment will often be scaled back to the extent that responsibility was impaired.

If someone has a condition that makes it very hard for them to resist urges – say, a [pathological drive to steal](#) – then we may feel more forgiving than towards someone whose theft was the result of a cool and calculated decision.

Sentencing has two main justifications: it seeks to punish people to the extent they deserve, and also to deter or contain criminals thought likely to re-offend.

A defence lawyer would have to think hard about introducing evidence that their client is unable to control criminal urges. The judge may agree that this renders a person less blameworthy while deciding it makes them more dangerous.

Genetic evidence

What impact is genetic evidence likely to have on all of this? Evidence most likely to be used will involve genes for neurotransmitters, such as the monoamine oxidase receptor gene ([MAOA](#)). Low levels of expression of the *MAOA* gene can, when combined with childhood trauma, [contribute to violent outbursts and antisocial behaviour](#).

The appeal of genetic evidence is easy to understand. It is seen as "hard" evidence that is objectively verifiable, unlike psychiatric evidence, which may rely on self-reporting. But applying this "hard" evidence will not be straightforward.

Genes are often perceived as the underlying rules that make up who we are, but our genetic code is more like the first draft of a book and we are the movie adaptation: some chapters are lost, some characters altered, and these changes arise from genetic and environmental interactions.

While the generalisation that "the MAOA gene predisposes to violent outbursts" is true for a population, it is [much harder](#) to prove that one person was affected in this way.

There's also a major difference between the claim "people with this gene are more likely to commit crime", and "people with this gene have no

choice but to commit crime". A defence lawyer will need to show not only that her client had the gene alteration in question, but that it decreased the control of their actions.

None of which is to say that genetic evidence might not have a role to play.

Diminished culpability?

In practise, diminished culpability suggests less severe sentences. Sentencing procedures are designed to account for the specific circumstances of a defendant, and evidence can be used flexibly. Many genetic arguments have used [family history](#) rather than [genetic data](#).

In 2009, the defence in a US murder trial presented genetic evidence of [low MAOA expression](#). The defendant was convicted of [manslaughter rather than first degree murder](#) to reflect his mental state and capacity. Two courts in Italy also altered sentencing in response to genetic data in [2009](#) and [2011](#). Here, sentences were significantly reduced in response to neurological and genetic evidence suggesting diminished capacity.

Despite the [general approach to diminished culpability by judges](#), the [public has a greater fear of defendants](#) with [genetic evidence](#) supporting diminished capacity. This highlights the tension between the need to punish and the justification for containment in sentencing.

A focus on rehabilitation will help soothe this tension. Diagnosis of the defendant's issues provides a stronger motivation to provide counselling and anger management services. These can allow for safety concerns while recognising guilt.

We are all products of our genes *and* environment. Defendants do not choose, and cannot change, their upbringing any more than they can

their genes. Yet bad childhood environments are rarely treated as complete excuses. Genetic evidence might inform answers to questions judges already ask, but it's unlikely to pose a radical challenge to the way we think about crime and punishment.

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