'My genes made me do it:' Behavioral genetic evidence in criminal court

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The use of genetic data to establish a physiological basis for violent or impulsive criminal behaviors is occurring more frequently in criminal trials. However, a new review finds that genetic evidence used in the courtroom is not likely to be effective in convincing judges and juries that the defendants are less culpable for their actions.

The paper, "Behavioral Genetics in Criminal Court," by Paul

Appelbaum, MD, at Columbia University Medical Center and Nicholas Scurich, PhD, at University of Californa, Irvine, was published today in *Nature Human Behaviour*.

Evidence for a link between gene variants and criminal behavior has been tenuous. For example, low activity in the MAOA gene, found on the X chromosome, added to a history of childhood maltreatment, has been associated with an increased number of convictions for violent crime. However, the relationship between the gene's activity, environmental factors, and criminal behavior is unclear.

One possible reason for its limited effectiveness may be that using genetic data arouses contradictory perceptions in the people hearing it in the courtroom. "A judge and jury may find defendants are less responsible because of a genetic factor," noted Dr. Appelbaum, "but also feel that they are more likely to re-offend because they can't control themselves due to the genetic effect." These two ideas work to cancel each other out, negating any effect on the assignment of blame and punishment.

It has also been argued that genetic explanations are not sufficient to decrease responsibility for behavior. The law requires that defendants must show limited rationality (e.g., due to insanity) or have a reason for reduced behavioral control (e.g., mental disability or young age) for the courts to reduce responsibility or shorten a sentence.

"Ongoing use of behavioral genetic data in the criminal courts may depend on the success of future research elucidating the mechanisms of genetic effects on behavior and responsibility, noted Dr. Appelbaum, "as well as how these genetic explanations relate to legal standards for responsibility in the criminal arena. "

"Until that evidence is forthcoming," he continued, "the use of

behavioral genetic data in the criminal justice system is likely to diminish. For the time being, at least, not relying on genetic evidence in criminal courts may result in fairer outcomes at every level."

"Behavioural Genetics in Criminal Court," by Paul Appelbaum, MD, at Columbia University Medical Center and Nicholas Scurich, PhD, at University of Californa, Irvine, was published on September 18, 2017 in *Nature Human Behaviour*.

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