

JOINT EVENT

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Nature vs nurture on criminology – A review of genetic contribution to violent behavior

Objectives: The classical view of sociology and criminology is that we should look upon social forces to understand criminal behavior. But since several adoption studies in the 1970s and 1980s suggested that having an incarcerated birth parent raised one's own risk of earning a criminal conviction as an adult (even if educated by law-abiding foster parents), the idea that inherited genetic dispositions may elevate the risk for engaging in criminal behavior gained strength. In this work we will discuss the data that has emerged from recent research that has focused on identifying which specific genes confer risk for antisocial behavior.

Methods: Revision of scientific literature through, using search terms including genetics, epigenetics, violent behavior, MAO-A, CDH-13.

Results: More than 100 behavioral genetic studies report that there is a significant genetic basis to antisocial and aggressive behavior. Several meta-analyses even suggest that the contribution to criminality that is attributable to genetics is between 40-60%. Some studies have identified individual genetic variants that are associated with violent behavior, being the most prominent MAO-A (monoamine oxidase A) and CDH-13 (cadherin-13) polymorphisms. In a recent study, it was suggested that at least 5-10% of all serious crime in Finland is attributable to MAO-A and CDH-13 genotypes. On the other hand, a meta-analysis showed that no variant was associated with aggression at the 5% level of significance, concluding that the contribution of any single gene is likely to be minor. Recent research in epigenetics has also shown that environmental circumstances have a crucial role on how genes are functionally expressed in the individual.

Conclusions: Although there is a growing body of evidence revealing an important genetic influence on criminal/antisocial behavior, research in epigenetics has undermined traditional arguments of biological determinism. Better understanding for the role of genetics may change society's approach to punishment, prediction and prevention of criminal behavior.

Biography

João Pedro Lourenço has completed his Master's degree in Medicine (2012) from Lisbon University – Medical College. He is in his final year (5th year) of Psychiatry Residency, after which he will become a Psychiatry Consultant. During his residency, he made an internship in Forensic Psychiatry settings (Forensic Psychiatry Service of the Psychiatric Hospital Center of Lisbon). He has completed his Post-graduate course (70 hours) on Forensic Psychiatry and Psychology promoted by the Institute of Legal Medicine of Portugal.

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