

Pleading for a
biosocial perspective
in criminology
criminology essay



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Criminology traditionally has a multidisciplinary character. However, sociology was the reigning paradigm that dominated the study of crime in the 20th century. Despite of tremendous progress in molecular and behavioral genetics, biological knowledge is not yet implemented in contemporary criminology. The present review therefore takes aim at developing a constructive view on criminal behavior by using an interdisciplinary perspective that encompass both sociological and biological frameworks. First, the current position of biosocial criminology in society will be discussed. Second, possible reasons why the biological paradigm is held outside criminology will be examined. Thereafter the various biological disciplines with their added value to criminology will be described, thereby having a closer look on behavioral genetics. Finally, the review will conclude that biological insights are indispensable while unraveling the etiology of criminal behavior.

The crime problem

Crime is a major problem for society. In the mid 90-ties the annual cost of crime to each U. S. citizen was more than 4000 dollar (Walsh & Ellis, 2004).

Crime occurs in different forms by varying from simple shoplifting to very serious offenses like homicide and raping. The heterogeneous nature of criminal behavior makes it difficult to unravel the causes of crime.

Historically, the explanation of crime shifted from a devil based view in medieval times into a more scientific view, which is theory driven and multidisciplinary (Ferguson & Beaver, 2009). Despite of the multidisciplinary character of criminology, the last few decades there has been a purely environmental approach declaring criminal behavior. Although these

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environmental approaches offer some explanatory power, a more integrated perspective towards crime is needed for scientific progress (Eliaerts & Snacken, 2000). In order to develop a more nuanced and broader approach, there is recently more attention on biological factors in addition to sociological factors while explaining delinquency. However, this biosocial perspective has only a handful of supporters and can count on much criticism from environmental criminologists. In this view, it is remarkable that closely related disciplines such as psychiatry and behavioral genetics have applied the biological paradigm in the explanation of psychopathological behavior for many years now (Moffit, 2005). Research has consistently shown that individual differences in psychopathological behavior are partly due to genetic influences (Boomsma, Busjahn, & Peltonen, 2002). Crime is behavior as well and can then be explained as the product of both genetic and environmental variation. Insights in biology are thus indispensable in the explanation of crime (Donker, 2000). The present review therefore takes aim at introducing the biological paradigm to criminology and will discuss why biological explanations are still underexposed in the explanation of crime. Furthermore there will be discussed what the relatively new field of behavioral genetics can add to current criminology.

Biosocial criminology

Biology is pre-eminently the discipline which made tremendous progress in recent decades. Discoveries in the field of genetics have affected the medical community permanently as well as behavioral geneticists who eagerly build upon the insights of contemporary biology (Delisi, Beaver, Wright & Vaughn, 2008). A striking example of this is the Human Genome <https://assignbuster.com/pleading-for-a-biosocial-perspective-in-criminology-criminology-essay/>

Project: in which an international group of scientists has identified the genetic makeup of human species by determining the sequence of all the nucleotides in human DNA. Completely contrarian to this development, criminological scholars have held the biological paradigm outside their theories for years. Sociological criminology was the reigning paradigm that dominated the study of crime in the 20th century (Walsh & Beaver, 2009).

There may be multiple reasons to explain the rigid use of this limited approach. The exclusively environmental approach towards crime is partly due to the fact that criminologists traditionally are trained in a predominantly sociological schooling. These scholars often become specialized in one of the classic sociological approaches explaining criminal behavior such as 'strain' theory (deviation as the result of the mismatch between culturally induced aspirations for economic success and structurally distributed possibilities of achievement) or routine activity theory (focuses on crime opportunities in everyday life such as lack of a guardian), thereby not taking other explanations in consideration (Walsh & Ellis, 2004; Gottfredson & Hirschi, 1990).

Another reason is the reputation of early biological research. Current biological approaches still suffer from the image of the Italian school of Cesare Lombroso in the nineteenth century. Lombroso was an Italian prison doctor who believed that crime was (biologically) caused, not chosen. In his most famous work *Criminal Man* he postulated that crime was caused by biological defects in inferior 'atavistic' individuals who were 'throwbacks' from an earlier evolutionary stage of human development.

Although Lombroso has published a lot about the origins of delinquency, he <https://assignbuster.com/pleading-for-a-biosocial-perspective-in-criminology-criminology-essay/>

is recognized and criticized most about his idea of physiognomy: the born criminal could be distinguished by physical characteristics such as large jaws and high cheekbones (Gottfredson & Hirschi, 1990). It is this reputation, the not very sophisticated methodology used by early founders of biological theory, which still puts biosocial criminology in a bad light (Walsh & Beaver, 2009).

Another explanation why biology has become common in related disciplines, but not in criminology could lie in the fact that there is a general fear for genetic determinism among social scientists (Delisi, Beaver, Wright & Vaughn, 2008). Biosocial criminology urges a greater philosophical question whether an individual still has freedom to act if his behavior is biologically caused. Opponents argue that free will, as the foundation of our legal system, would be undermined if crime has genetic origins (Levitt & Manson, 2007). It is clear that there are legal and ethical issues arising from behavioral genetics and neuroscience and these concerns should be taken into meticulous consideration. In biosocial criminological circles it is widely acknowledged that there are ethical drawbacks to a strict biological approach and the large majority of these authors aim to have a biosocial perspective on crime rather than genetic determinism (Walsh & Ellis, 2004). However, sometimes scientific findings are erroneously used by the uninitiated. Recently an Italian court has reduced the sentence of a murderer after identifying genes linked to violent behavior (Nature, 2009). It is this type of events which shapes the fear of genetic research. Logically, behavioral geneticists from all over the world have challenged this ruling. Contemporary knowledge in genetics is surely not capable of predicting

behavior on an individual level, but only in large population statistics (Boomsma et. al, 2006). Therefore allegations which equate behavioral genetics with genetic determinism are based on irrational fear and should be fought against.

The paragraph above mentioned that there are multiple causes for the unpopularity of biosocial criminology. The bad reputation is partly due to an unfounded fear of genetic determinism which in itself is linked to methodological shortcomings of early biological criminologists. Nowadays the methodological tools have become one of the strengths of biology which is, as an exact discipline, characterized by empirical research (Walsh & Ellis, 2004). Subsequently, the contemporary zeitgeist seems to be more receptive for further insights and the resistance against biology will gradually diminish (Eliaerts & Snacken, 2000). So, if we can overcome the fear for genetics and biological knowledge can be used for criminological purposes, what has this discipline to offer then?

There are roughly three biological disciplines relevant to criminology: neuroscience, evolutionary biology and genetics. The basics of neuroscience must become part of every criminologist's repertoire since the brain is the place where genetic dispositions and environmental experiences are integrated. Scientific data indicates that self-control, as an important concept in criminology, is housed in the frontal and prefrontal cortex and that it involves a complex, dynamic balancing of limbic and cortical functioning (Wright et al., 2008). Neuroscience can thus provide criminology with a solid foundation for, and a more sophisticated understanding of, many of its central elements. Evolutionary biology seeks to understand the

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adaptive function of a mechanism in terms of its survival and reproductive value. Applied to crime the question would be: what was (and still is) the evolutionary relevant purpose of a criminal act? These kind of ultimate-level *¿½why¿½* questions can complement genetics because it informs us how the genes of interest came to be present in the first place (Walsh & Beaver, 2009). Last but not least, genetics has become a rapidly growing discipline which can be very valuable for criminology. Given the strongly expanding nature of the field of genetics and the potential value it has for criminology, behavioral genetics, as an important player in this field, will be further explored.

Behavioral genetics

Behavioral genetics is the application of quantitative genetics to the study of human traits and behaviors such as IQ, extraversion and delinquency (Boomsma, Busjahn & Peltonen, 2002). This approach can also be used to tackle fundamental criminological issues, such as: to what extent can individual differences (variation) in criminal behavior be explained by genetic influences? Nevertheless, as already been mentioned, crime is a very heterogeneous and abstract concept. In order to decompose this variation (in crime) into a genetic and an environmental part, it is necessary to focus on specific crime related syndromes which can be operationalized. Hence, the present review will focus on aggressive behavior and rule-breaking behavior.

Aggressive behavior and rule-breaking behavior are considered as behavioral subtypes of criminal behavior (Ferguson & Beaver, 2009). Aggressive behavior in children is an enormous public health problem. Longitudinal

research showed that childhood physical aggression is a precursor of being violent in adolescence and beyond (Stattin & Magnusson, 1989).

Furthermore, aggressive children are at higher risk of alcohol and drug abuse, accidents, violent crimes, suicide attempts and long term unemployment (Kokko & Pulkkinen, 2000). Developmental studies have shown that aggressive behavior usually starts at a very young age and remains stable during life (Broidy, Nagin & Tremblay, 2003). Likewise, early onset of rule-breaking behavior has proven to be a significant predictor for later delinquency. Krohn et al. reviewed nineteen criminal career studies and found that early onset offenders were forty times more likely to become habitual criminals than late onset offenders. With all of that said, these syndromes are highly associated with crime and therefore merit criminological attention. However, what could be the role of behavioral genetics in this?

Twin studies and crime

Individual differences in aggressive and rule-breaking behavior can be regarded as phenotypic variation. A phenotype is an observable characteristic of a certain trait and is the product of the interaction between the genotype and the environment. The phenotypic variation in these syndromes is therefore composed of two sources, the genes and the environment. Behavioral genetics seeks to understand both the genetic and environmental contributions to individual variations in human behavior. In order to determine the relative contribution of the genes and the environment twin studies are used, since they have genetically informative samples. Twin studies are based on the genetic relatedness between twins <https://assignbuster.com/pleading-for-a-biosocial-perspective-in-criminology-criminology-essay/>

and their family members. In the classical twin design the correlation between monozygotic (MZ) twin pairs at a certain phenotype is compared with the correlation between dizygotic (DZ) twin pairs. Since MZ and DZ twins pairs are exposed to the same prenatal and postnatal environment, DZ pairs form the perfect control group of which the agreement between MZ-twin pairs can be compared with. The only difference between MZ and DZ twin pairs is that MZ twins share exactly the same genetic information, whereas DZ twins share on average 50% of their genes. Differences in MZ correlations and DZ correlations can therefore be attributed to genetic influences (Boomsma, Busjahn, & Peltonen, 2002).

Based on these twin studies heritability estimates can be made (if MZ twins have a higher correlation concerning aggressive and rule-breaking behavior than DZ twins this suggests that individual differences in these syndromes can be explained by genetic factors). Heritability is defined as the extent to which individual differences in genetic makeup contribute to individual differences in observed behavior. Concerning human behavior most of the estimates of heritability are in the range of .30 to .60. A meta-analysis conducted by Myles & Carey (1997) showed that 50% of the variance in aggressive behavior could be explained by genetic effects. Subsequently similar heritability estimates have been reported concerning rule-breaking behavior (Bartels et al. 2004a, Bartels et al. 2004b). Twin studies can thus contribute to criminology, because they provide information on the extent to which individual differences in criminal behavior are influenced by genetics.

To conclude: individual differences in aggressive and rule-breaking behavior can be partly explained by genetic factors. The high heritability estimates on <https://assignbuster.com/pleading-for-a-biosocial-perspective-in-criminology-criminology-essay/>

these crime related syndromes suggest that there is likewise a strong genetic influence on general criminal behavior. Since aggression and rule-breaking behavior are strongly affiliated with criminal behavior, a study of the genetic etiology of these syndromes can ultimately generate fundamental knowledge for criminology.

Conclusion

Crime has always made its mark on society. For centuries governments have been trying to suppress crime through all kinds of punishment. In this fight it is of utmost importance that intervention strategies are based on reliable scientific knowledge (Donker, 2000). It is therefore desirable that criminology, which is eminently theoretical, will substantiate its rulings with empirical research. Present review has argued for an integrative view on crime whereby aspects of the biological sciences are added to traditionally criminological approaches. Biosocial criminology is not hostile to sociology and merely advocates for a broader, more powerful paradigm that encompass rather than dismiss the social. Any behavior is always the result biological factors interacting with environmental factors .

A striking example of this interwoven theory is the gene-interaction effect. Multiple studies showed that child abuse in combination with genetic susceptibility can lead to an increasing risk of depression and even suicide later in life.

Studying crime from a biological point of view has been taboo for decades but is now getting visible again, as demonstrated by the theme appeared in

2005: “ biosocial perspectives in criminology” in the Dutch journal of <https://assignbuster.com/pleading-for-a-biosocial-perspective-in-criminology-criminology-essay/>

Criminology. Despite this development, important scientific conclusions are often overlooked in policy. The People's Party for Freedom and Democracy (VVD), currently[update] the largest political party in the Netherlands , can serve as an example here. While research constantly shows that more severe punishment is not functional, the VVD is calling for stricter penalties, which illustrates that the criminal law has not only to do with efficiency questions, but also has to deal with phenomena like retaliation.

In sum, present review believes that the biological sciences have a bounty of treasures to offer criminology. Biosocial criminology will serve as the new paradigm capable of guiding the study of crime in the 21st century, which will be an important intellectual enterprise!