

Task: Critically Evaluate if modern biological abnormalities could be a determinant of crime.

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Bailey et al. (2013) provide that modern biological abnormalities incorporate abnormalities or variations from the normal biological composition of individuals because of environmental, social, and hereditary factors. Biological abnormalities can include neurological anomalies that impact brain structure and function, disruption of hormones, and predisposition to hereditary conditions (Bailey et al. 2013). However, as provided by Caspi et al. (2002), biological abnormalities are not restricted to the topic of physical and mental health conditions; there are also contentious and broad debates, with evidence showing that such abnormalities also can be linked to predispositions to criminality. There may be a connection between biological anomalies and criminal behaviour, according to research. Criminal behaviour, for example, has been linked to anomalies in the way the brain works (Raine, 2013). Furthermore, there is a significant amount of credible evidence that supports the notion that hereditary factors may contribute to criminal conduct (Beaver et al., 2013). In addition, research suggests that those with reduced serotonin levels are significantly more likely to act impulsively and aggressively, including by displaying behaviours that suffice for acts of criminality (Mann et al., 2016). Although the correlation between genetics and criminality is intricate and multifaceted, these results show that biological variables may contribute to criminal conduct. The structure of this essay begins with exploring the relationship between genetics and predisposition to criminality before critically analysing the complications of the relationship between biological factors and crime, before analysing the benefits and recommendations made to present a balanced paper relating to the question of whether biological abnormalities could be a determinant of crime. Overall, the essay aims to provide a comprehensive understanding of the role that genetics and biological factors play in criminal conduct. By examining the available evidence and considering the complexities of this

relationship, the essay seeks to present a nuanced perspective on this controversial topic.

Studies have discovered a strong association between genetics and criminal behaviour, despite the absence of certainty that genetics alone causes crime (Rhee & Waldman, 2002). According to Raine (2013), genetic makeups can increase a person's likelihood to exhibit particular traits and behaviours. Many studies have concluded that these genetic makeups are the underlying factor in criminal behaviour. According to a study by Tiihonen et al. (2015), genetics play a substantial role in the occurrence of extreme violent outbursts. More specifically, scientific research has found that a gene that processes neurotransmitters linked to violence would seem to be more prominent in a group of male offenders with aggressive behaviour than in a group of people who do not have a history of offending behaviour (Brunner et al., 1993). This finding has more recently been confirmed by a study led by Guo (2008). As a result of the DRD2 gene mutation being connected to impulsivity and addiction, studies also demonstrate that people with a specific version of the gene are much more likely to engage in substance abuse as well as other criminal activity (Blum et al., 2022). Similar to the research conducted by Brunnet et al. (1993) and Tielbeek et al. (2017) state that genetics account for approximately 40% of the variation in antisocial behaviour, emphasising that it is seen substantially more frequently in males than in girls (Baker et al., 2007).

Many studies have associated impaired cognitive structure and function to criminal behaviour. The prefrontal cortex, a part of the brain linked to impulse control, decision-making, and social behaviour, tends to show less activity in those who participate in criminal behaviour, which is one of the most striking discoveries by Raine (2013). This

decreased activity could result in impulsivity and bad decision-making, two characteristics that are frequently found in criminal offenders. Moreover, research have demonstrated that those who have aberrant brain regions, such as smaller amygdalas, are more likely to act criminally (Raine et al., 2000). A smaller amygdala may result in diminished empathy and greater aggression, both of which are linked to criminal behaviour. The amygdala is crucial for processing emotions, notably fear. Criminal behaviour has also been connected to anomalies in the brain's reward system. According to studies, those who commit crimes typically have lower amounts of dopamine, a neurotransmitter linked to pleasure and reward (Buckholtz et al., 2010). As a result, people could seek out dangerous behaviours like criminal activity in order to get the same kind of pleasure and reward. Walsh and Kosson (2010) argue in support of studies relating to brain function and criminality as being paramount to developing treatments to target underlying issues, including aberrant brain activity, can lower the likelihood of criminal conduct and encourage a successful reintegration into society. As a result, such research and exploration allow for opportunities to create effective preventative and intervention techniques that include each individual's particular circumstances and neurological compositions (Walsh and Kosson, 2010).

Hormonal imbalances must be studied more in order to go deeper into the subject of biological abnormalities, despite the fact that they are a highly contested matter. It has long been believed that hormonal abnormalities contribute to criminal behaviour. According to certain studies, high testosterone levels are likely related to aggressive behaviour, while low cortisol levels have been associated with impulsive behaviour (Mazur & Michalek, 1998; Van Hazebroek, 2021). Yet, there are many variables to take into account and the link between hormone abnormalities and criminal behaviour

is not uncomplicated. The difficulty in proving causation is one of the studies' limitations when looking at the relationship between hormone abnormalities and criminal behaviour. It's plausible that hormonal imbalances cause criminal behaviour, but it's also possible that the other way around is true—that criminal behaviour causes hormonal abnormalities (Balter, 2018). It can be difficult to isolate the role of hormones alone because a variety of other factors, such as social and environmental ones, may influence both hormonal imbalances and criminal behaviour (Balter, 2018). The lack of specificity in the association between hormones and particular types of criminal behaviour is another problem with studies on hormonal imbalances and criminal behaviour (Booth et al., 2006). For instance, while some research has linked testosterone to violent behaviour, other research has either been unable to confirm similar findings or has linked testosterone to non-violent antisocial behaviour (Booth et al., 2006).

However, according to Akers (2017), there are a plethora of factors that contribute to the causation of criminal behaviour including social, economic, and environmental considerations. Furthermore, the complexity and multifaceted nature of crime makes determining precise causation difficult. Criminal behaviour can take many forms, ranging from minor offences to violent crimes, and is influenced by a variety of factors that vary by case (Huang and Chen, 2023). Identifying the precise causal factors of a specific crime necessitates a thorough understanding of the individual circumstances. Ling et al. (2019) argue that biological determinism should be applied cautiously as genetics alone do not determine criminal behaviour and often social factors should be taken into account as the two matters are interlinked and influential of each other. As reinforced by Farrington (2005), there is a casual relationship between social factors, genetics and criminal behaviour which is unclear and causes a great degree of

difficulty for there to be a clear singular causation of crime. A prime research example which demonstrates the interdependence between social influence and genetic predispositions is the study carried out by Caspi et al., (2002) who identified that children who were mistreated and were also identified as having a specific genetic mutation were significantly more inclined to engage in aggressive behaviour. The research shows the importance of acknowledging that genetics do not act as a sole causation for criminal behaviour.

It has been repeatedly demonstrated by research that people who are raised in low-socio economic communities and households are more prone to commit crimes. Many risk factors, such as a lack of access to education, poor access to healthcare, and a lack of work prospects, have been connected to poverty (Goodman and Gregg, 2010). In these communities, a lack of supportive structures and strong role models can also be a factor in criminal activity. Person and Krivo (2005) found that structural inequality and poverty were important predictors of the rates of violent crime in metropolitan regions.

Exposure to violence is another environmental component that has been connected to criminal conduct. People are more inclined to violently act if they have witnessed or experienced violence in their homes or communities. According to a Widom (1989) study, people who experienced physical abuse as children were more likely to engage in criminal activity as adults. Moreover, criminal behaviour has been connected to illiteracy. Those who have less access to education are less likely to find well-paying professions, which can cause financial problems and raise the likelihood that they will commit crimes. According to a study by Hirschi and Gottfredson (1983), delinquent behaviour was significantly predicted by low academic achievement.

Concern has been expressed over the stigmatisation of people with biological defects as automatically criminals in both scholarly and popular discourse. As presented in this essay, biological factors are just one of many factors that can contribute to criminality, even though some studies suggest that certain biological factors, such as low serotonin levels or a smaller prefrontal cortex, may contribute to an increased risk of engaging in criminal behaviour (Raine, 1993). It can have serious detrimental effects on both the individual and society as a whole to stigmatise those with biological anomalies as inherently criminal.

The spread of negative preconceptions and falsehoods is one of the main dangers associated with stigmatising people who have biological abnormalities (Raine, 1993). These preconceptions can cause marginalisation and discrimination, which can limit a person's access to social services, housing, and work possibilities. Furthermore, stigmatisation may result in the adoption of measures that are not supported by facts and that prioritise generalisations about biology and criminality over the needs of specific individuals (Roskies, 2018). Moreover, stigmatisation may cause people to experience negative psychological reactions such feelings of shame and low self-worth. These detrimental psychological impacts can aggravate any conditions that already exist in people with bodily defects, such as mental health illnesses (Corrigan and Watson, 2002).

Rudo-Hutt et al. (2011), supports that biological determinism provides the potential for the prevention of crime through biological interventions – which allows for the identification of individuals with biological predispositions to criminal behaviour, preventative measures can be put in place. For example, genetic testing can be used

to identify individuals who are at a higher risk of engaging in criminal activities. These individuals can then be provided with support and interventions such as counselling, therapy, and medication to reduce their risk of engaging in criminal behaviour (Vaughn et al, 2009). Similarly, brain imaging technology can be used to identify individuals who are at higher risk of engaging in criminal behaviour based on their brain structure. For example, individuals with reduced prefrontal cortex activity, which is associated with impulse control, are more likely to engage in criminal behaviour (Raine, 2013). By identifying individuals with this brain structure, targeted interventions such as cognitive behavioural therapy to improve their impulse control and prevent criminal behaviour can be delivered. Another promising application of biological determinism in the prevention of crime is the use of hormone therapy. Hormones such as testosterone have been linked to aggressive behaviour in males (Book et al., 2001). Additionally, by providing hormone therapy to individuals with high levels of testosterone, there is opportunity to reduce the risk of engaging in aggressive behaviour and prevent criminal behaviour before it occurs.

Another key reason for identifying underlying causes of criminal behaviour is that it can help to prevent crime before it occurs. For example, research has shown that early intervention programs for at-risk children can reduce their risk of engaging in criminal behaviour later in life (Farrington, 2003). By identifying children who are at higher risk of engaging in criminal behaviour based on their social and economic circumstances, there is opportunity for the provision of targeted interventions such as mentoring or educational programs to prevent criminal behaviour before it occurs. Similarly, identifying the underlying psychological factors that contribute to criminal behaviour can help to develop more effective interventions for individuals who have already engaged in criminal behaviour. For example, cognitive behavioural therapy has been

shown to be effective in reducing recidivism among individuals with mental health issues (Van Voorhis et al., 2010). By identifying individuals with mental health issues who are at higher risk of recidivism, it allows for targeted interventions such as cognitive behavioural therapy to prevent future criminal behaviour. However, despite the apparent benefits, there are various limitations of using biological determinism to identify the causations of crime. Agnew (1992) argues that biological determinism oversimplifies the complex nature of human behaviour. Criminal behaviour is the result of multiple factors, including social, psychological, and environmental factors, and cannot be explained solely by biological factors. Research has shown that environmental and social factors, such as poverty and unemployment, can have a significant impact on the likelihood of engaging in criminal behaviour (Agnew, 1992).

It is crucial to approach the use of biological data in criminal justice decision-making with delicacy and prudence and to make sure that any findings are not abused to stigmatise or engage in biologically based discrimination against persons. Therefore, consideration must be given to the potential ethical implications of using biological determinism to understand criminal behaviour. The accuracy and reliability of biological information are also ethical considerations in criminal justice decision-making. There is a risk that biological information may be misinterpreted or misused, leading to wrongful convictions or unfair treatment (LaPorte, 2017). For example, brain scans may be used to support a diagnosis of psychopathy, which may lead to longer prison sentences or reduced access to rehabilitation programs. However, the accuracy and reliability of brain scans in diagnosing psychopathy have been called into question, and there is a risk that individuals may be unfairly stigmatized or punished based on faulty information. The identification of genetic or neurological factors that are associated with criminal behaviour may lead to stigmatisation and discrimination

against individuals who possess such traits (Allen, 1984). Additionally ethical implications include privacy and consent, stigmatisation and discrimination, accuracy and reliability, and transparency and accountability are all crucial ethical considerations that must be addressed to ensure that the use of biological information is fair, just, and ethical (Agnew, 1992). When using biological data to guide criminal justice decisions, transparency and accountability are crucial ethical considerations. To guarantee that biological data is utilised responsibly, does not violate people's rights, or results in unfair treatment, it must be used in an open and accountable manner. For the collecting and use of biological data in criminal justice decision-making, this may entail the creation of precise rules and regulations as well as oversight and accountability systems to assure compliance (LaPorte, 2017).

In conclusion, there is strong evidence that genetics, brain function, and hormonal imbalances, among other biological factors, may play a role in criminal behaviour. Studies have shown that certain genetic makeups, brain structures, and hormonal imbalances may increase the likelihood of engaging in criminal behaviour. Even though the link between biological abnormalities and criminal behaviour is complicated and has many parts, understanding these factors can lead to more effective ways to stop criminal behaviour and help people who are already doing it. However, it is also important to note that biological factors are not the sole determinant of criminal behaviour and that other environmental and social factors must also be considered. As such, a nuanced perspective is needed when examining this controversial topic.

Hormonal imbalances, such as high testosterone levels and low cortisol levels, have also been associated with aggressive and impulsive behaviour. While genetics is not

the sole cause of criminal behaviour, research has shown that genetics may play a substantial role in the occurrence of extreme violent outbursts and antisocial behaviour. Research into biological factors and criminal behaviour is a rapidly evolving area, and while it has the potential to contribute to effective preventative and intervention techniques, further research is needed to fully understand the complex relationship between biological factors and criminal behaviour. It is also important to consider the ethical implications of using biological factors to predict criminal behaviour and the potential for discrimination against individuals who may be genetically predisposed to criminal behaviour. As such, a nuanced and ethical approach is needed when examining this topic.

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