

How to Prevent People Who Are Genetically Prone to Committing Crimes from Conducting Antisocial Behaviors in the Future

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ABSTRACT

Some people like or enjoy fighting and being aggressive naturally whereas others oppose those violent behaviors. So, can we conclude that there are a group of people carrying crime genes genetically? Scientists had already investigated the influence of genetics and evolution on behaviors of extreme and criminal violence among human beings. They found that being aggressive and violent moderately can enhance the survival rate of an organism's reproduction. Extreme violence is regarded as high-end variance in the evolutionary adaptive process in which the tendency for aggression and violence has adapted to each human being in moderate doses. However, it is still necessary to prevent these antisocial behaviors that are allowed by nature and evolution from happening as far as possible since there will be more crimes committing people biologically who contain criminal genes without inhibition. Sometimes disobeying natural laws is permitted and required to achieve a more peaceful and orderly world. Nonetheless, the most viable solution, medical treatment, has not developed yet because altering one's gene purposely is not a thing that is easy to be accomplished via technology nowadays, and the uncertainty of the experimental drug also needs to be considered. However, now the two possible remedies for refraining people from committing crimes are psychological treatment and sound education which works perfectly well; the two solutions play a vital role in controlling the global crime rate.

Keywords: *Crime Genes Genetically, Antisocial Behaviors, Prevention*

1. INTRODUCTION

Some people like or enjoy fighting and being aggressive naturally whereas others oppose those violent behaviors. So, can we conclude that there are a group of people carrying crime genes genetically? Scientists had already investigated the influence of genetics and evolution on behaviors of extreme and criminal violence among human beings. They found that being aggressive and violent moderately can enhance the survival rate of an organism's reproduction. Extreme violence is regarded as high-end variance in the evolutionary adaptive process in which the tendency for aggression and violence has adapted to each human being in moderate doses. However, it is still necessary to prevent these antisocial behaviors that are allowed by nature and evolution from happening as far as possible since there will be more crimes committing people biologically who

contain criminal genes without inhibition. Sometimes disobeying natural laws is permitted and required to achieve a more peaceful and orderly world. Nonetheless, the most viable solution, medical treatment, has not developed yet because altering one's gene purposely is not a thing that is easy to be accomplished via technology nowadays, and the uncertainty of the experimental drug also needs to be considered. However, now the two possible remedies for refraining people from committing crimes are psychological treatment and sound education which works perfectly well; the two solutions play a vital role in controlling the global crime rate.

2. LITERATURE REVIEW

2.1. *What is Crime?*

In 2010, the reduced sentence of a male criminal accused of murder was reduced after it was discovered that he was a carrier of a genetic mutation thought to be associated with aggressive tendencies. He suffers from schizophrenia and was mentally disturbed at the time of the crime. At the Court of Appeal, the offender was given "genetic susceptibility tests" which showed that the offender carried certain variants of the *maoa*, *comt*, *scl6a4*, and *drd4* genes associated with aggressive modulation. It turns out that mutations in certain genes or specific genes are some of the factors that cause people to subconsciously engage in criminal behavior [1].

Psychiatrist and neuroscientist Adrian Raine presents the brain characteristics of the criminal mind. Raine also claims that genetics is beginning to "identify which specific genes promote criminal behavior." Suppose you find a link between a gene and a criminal, then you can identify a "crime gene." Those who carry the gene will be selected in advance to receive early monitoring or preventive treatment, reducing crime rates. This is the so-called cure crime gene.

2.2. *The Main Factors Influencing Crime*

Due to the unique environmental factors and living conditions around, people often commit various forms of crime. Because of the small number of people who commit crimes, criminologists point out that some major factors predispose people to commit crimes. For instance, poor family education can have a detrimental impact on children's growth, which may transform a child from a calm kid into a violent child. A lack of education can also lead teenagers to do some antisocial

2.2.1. *Social Factors*

Society is different now than it used to be. People are more self-aware. As a result, each society in different regions has different cultures and attitudes and holds different views of certain behaviors. They have different criteria for criminal behavior, so they behave differently. At the same time, the world now emphasizes the equality of all people, but many European and American countries still retain the idea of class stratification. The theory of deviant conflict is that social stratification and social system make some classes benefit while others pay the cost. These conflicts can be between classes, genders, races, between religions. However, those groups with unequal social status or vulnerable groups in the society tend to change their environment and create new environmental structures by committing crimes. As Dr. Martin Luther King once said, "Riots are the language of the innocent." From the perspective of conflict theory, people often express dissatisfaction in ways that flout

social norms. There are two most obvious problems in these conflicts. One is the black and white problem in The United States, and the other is discrimination against women. Andrea Dworkin on women's issues: "I want to see a man beaten to pieces and a high heel stuffed in his mouth like an apple in a pig's." Her words illustrate a line of thought that many women have when they are treated unfairly in society. In feminist theory, women's feelings of depression, anger, and persecution caused by men's negative behavior lead to criminal behavior. At the same time in society, many people are forced to attach many labels. In 1938, Tannenbaum proposed the label theory that deviant behavior is usually the result of labeling a person with a similar deviation. For example, if the teacher thinks that a student likes stealing, that student will be psychologically forced to accept the label and lay a foundation for guiding them to do so later. When people are labeled "criminal-prone" and "future criminals," criminal behavior is reinforced, perpetuating negative outcomes. These theorists argue that it is not the harm caused by a crime that makes it a crime, but rather the label that gives it. And defining and isolating any individual for a special treatment can be a way to stimulate and evoke inherently criminal traits. Society's tolerance of crime influences many criminal behaviors. Some people are too tolerant to call the police if they are robbed. Some are too powerful to go to the police for fear of reprisals. All of these conditions can lead to criminals appearing more frequently and behaving badly [2, 3].

2.2.2. *Poverty*

Poverty is often cited as the main cause of crime. Previous poverty research literature and demonstrated that it consistently showed that the poorer a person is, the more likely he or she is to become a criminal. So it follows that poorer areas have higher crime rates. Other study conducted a meta-analysis of 34 studies and found that 97% (except 2) of 76 studies reported higher crime rates in poor areas. The average correlation between poverty and violent crime was 0.44. In a second study on income inequality, they found an average correlation of 0.44 for 97%. It's not just Hsieh and Pugh's research that finds that most studies do find higher crime rates in poorer areas. But surprisingly, no consistent or significant effect of economics on crime has been found in much of the literature. Therefore, there are many different explanations for the relationship between the economy and crime. Other survey shows that crime causes poverty, not poverty causes crime. At the same time, the theory of social pressure typology holds that some people pursue the values of an affluent life and lead to a series of criminal behaviors. For example, the employment rate in some places is low and the resume requirements are high, leading to many people facing unemployment. The unemployed, discouraged by being cut off from jobs and financial resources, has long been looked down upon. Crime provides a way for them to

make easy money, buy things they would not otherwise be able to afford, and develop a sense of vanity and inner satisfaction [4,5].

2.2.3. Physiological Factors

Everyone's upbringing is different. Because of the country of birth and the circumstances of life, the crime situation is different. Studies have shown that having an adverse event in childhood or having done something wrong on your own is more likely to commit a crime. Children grow up in a bad environment, their parents are too harsh and bound, easy to form deformed personalities and rebellious thoughts. Children are more curious than adults and want to try everything. When they do something illegal that they don't even know they're doing, they're not disciplined, and they mislead into adulthood. Second, Durkheim's anomie theory at the end of the 19th century suggested that crime may occur when a person is not sufficiently controlled from childhood, but when he is under a lot of pressure. This theory is the basis for the theory of tension, which refers to the friction and pain that a person experiences while trying to find a way to satisfy their needs. In recent years, many theories of strain have emerged. The most recent of these is the strain theory founs that the American dream encourages crime. At the same time, the education level of each person also leads to crime. Sutherland, the father of American criminology, proposed and advocated the learning theory of criminology. His research suggests that criminal behavior is learned. One's social learning process can turn anyone into a criminal at anytime, anywhere. This learning process is learned through interaction with others and includes skills, motivation, rationalization, and attitude. People with less education are also more likely to engage in criminal behavior. They are very vague about what is right and what is wrong. They brutally deal with things and don't think about many aspects and future consequences [6-8].

2.2.4. Personal Experience

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that a person experiences while trying to find a way to satisfy their needs. In recent years, many theories of strain have emerged. The most recent of these is the strain theory proposed by Messner and Rosenfeld in 1994, which argues that the American dream encourages crime. At the same time, the education level of each person also leads to crime. Sutherland, the father of American criminology, proposed and advocated the learning theory of criminology. His research suggests that criminal behavior is learned. One's social learning process can turn anyone into a criminal at anytime, anywhere. This learning process is learned through interaction with others and includes skills, motivation, motivation, rationalization, and attitude. People with less education are also more likely to engage in criminal behavior. They are very vague about what is right and what is wrong. They brutally deal with things and don't think about many aspects and future consequences [9, 10]

2.3. Prevention

According to the most updated statistic on the global crime rate, researchers have found that countries or states with more high-education people have low crime rates. The cases in where many high-educational scholars convene of each type of crime are relatively less than places where the level of education is lower. Thus, a conclusion can be drawn that high education is one of the most successful and efficient methods of preventing crimes, but education can never be viewed as an elixir that will guarantee reductions in crime rates or antisocial behaviors because external factors can never cure internal staff after all. People might be curious that what main elements of high education can lead to a reduction in the global crime rate. People with a great level of education are not impatient meaning that they are less likely to be irritated by others and have a very strong psychological enduring capacity so that their crime genes are hard to arise by trivial difficulties and problems. Possible reasons could be that this group of people are generally more confident than their peers which results in that they will disdain and disregard rumors or someone trying to provoke. Plus, they are not interested in and will never waste their time dealing with unnecessary trifles, they prefer to spend time on something more essential instead [11].

High-educational people are also more risk-averse meaning that they are not possible to undertake certain unwanted responsibilities that they can avoid even if it might require a lot of effort. People with a decent education are skilled in balancing the significance of things so that something futile or useless will be quitted after they contemplate the pros and cons of an affair. In addition, the more education a person has, the more heavily a person will weigh the possible outcomes; consequences that they will consider are way more than individuals with poor education. Education resembles a

restraint to inhibit a person's evil actions before conducting those antisocial behaviors, which means the likelihood of being impulsive and doing certain evil actions will decrease very much. What's more, education can be equal to knowledge to some extent. Reasons that people with more education weigh more results can also be interpreted through knowledge, criminal laws specifically. Ignorant people have less knowledge about what punishments will be if they violate certain criminal laws; they have no idea how severe penalties will be given if they fight with people, for example. The punishment for petty battery in American criminal law is up to one year in jail, twelve months' probation, and a \$1000 fine. Poor-educational people might suppose the incoming punishment will be merely a few days in jail and a one-hundred penalty at most, so they will commit crimes without caring about consequences. The earlier, the better [12].

Thus, prevention to cease crimes from taking place must be enhancing school education in each part of the world, providing financial aid to schools by the government specifically. Schools that receive government investment can utilize that money to purchase certain facilities that can help with study and hire more professional teachers and professors to ensure students a better level of education and more clear comprehension of elusive knowledge. The second remedy is making the school rules stricter and humanitarian since there will be fewer students escaping from schools to avoid learning knowledge and more students staying in a bookish environment. Private schools can perfectly prove this idea because their rules are extremely rigorous in which students will be punished severely if they violate rules so that students are obedient to their teachers. In addition, private schools usually possess a complete set of equipment because they have plenty of money that can be used which stands for the previous point. Lots of data and statistics demonstrate that for these dropouts, more than sixty percent of them at some point in their lives. The phenomenon of giving up school life is attributed to the "inhumanity" school rules. Certain schools give suspensions that disproportionately involve young African American men and corporal punishment on students, which is evil and unfair to these students; It's very likely that they commit certain antisocial behaviors or drop out of school. Therefore, re-edit school policy must make it more humanitarian for students. Establishing a school community may be helpful to and beneficial to the education of students as well. Judging a student's success just by looking at one's grade is a mistake; those students with low grades will be forced out according to this "principle" otherwise. A more compassionate and understanding school environment is likely to create an atmosphere without hostility and harsh regime [13].

3. LIMITATIONS AND FUTURE IMPLICATIONS

3.1. Research Limitations

The study on how to prevent people who are genetically prone to committing crimes from conducting antisocial behavior in the future is associated with the following limitations; firstly, scientists are yet to invent the means for altering the genes of the people associated with antisocial behavior. Although scientists have been trying hard to find solutions, the gap remains unfilled. Therefore, it means that academicians have also done little concerning the topic, which would be a limiting factor to the study. The lack of information concerning the means of altering genes served as one of the main hindrances of making informed judgments in the study.

Another limitation of the study is the lack of knowledge or misunderstanding among the members of the public on the extent to which genetics is capable of determining/influencing the behaviors of individuals. This kind of misunderstanding has extended even to the media resulting in wrongful framing or interpretation of stories. Ignorance is a drawback to preventing people who are genetically prone to committing antisocial behavior. Some individuals even harbor disbelief that individuals can inherit antisocial behavior, which can serve as a significant challenge in making quality judgments on the study. The issue of racism and sexism also serves as another limitation encountered in the study. The belief in some countries that antisocial behavior is associated with some races or particular kinds of people posed a challenge in making deductions concerning the research topic. Since the study aimed to gain a solution to the problem at hand, it would be challenging to make judgments when some people are divided in their minds based on race and sexism; thus, those from dormant races would not admit that antisocial behavior can be inherited [14].

Besides, another limitation of the study was the lack of a practical definition of the crime gene, which would aid people in understanding the problem. The lack of practical definition harbors ignorance out of misunderstanding and hence would be a drawback towards concluding the study. The presence of different interpretations of laws of crimes in different countries affects the definition of gene crime. Whatever is regarded as a crime in one country might not be defined the same way in another country. This may act as a hindrance towards identifying genetically influenced crimes due to confusion in the interpretation of the law. Coming up with ways of preventing these crimes would be challenging without the backing of the law. Therefore, it means that the study results can end up being useful in a particular country and useless in another depending on the legal interpretation of hereditary crimes. The

variation in criminal standards in different countries, therefore, affected the judgments of the study [15].

3.2. Future Directions

Since the researchers have done little concerning the research topic, the study leaves some gaps that need to be filled by future researchers. Future research will be able to complement the results of this study. One of the research areas that need to be explored in the future is the influence of hereditary genes on crimes. Many people fail to understand how crimes can be genetic, and exploring this area would offer essential information that will convince people. This will aid in finding efficient measures of reducing genetically prone people from committing crimes. Another area of research that needs to be explored in the future is the impact of law in defining hereditary crimes. The study will help in knowing the provisions of the law that support the existence of genetically transferred crimes and how they are ranked and prosecuted in different countries. This will form a basis for dealing with genetically transferred crimes in society [16].

4. CONCLUSION

Genetic crimes have increasingly become a significant concern in society. Genetically crimes have increased the ability of people to involve themselves in antisocial behavior. The control of genetically inherited crimes has been a great struggle due to a lack of knowledge of the existence of these crimes among many people. Scientists have already investigated the influence of genetics and behavior evolution of extreme and criminal violence among humans. Scientific exploration has brought into light the possibility of genetically inherited crimes in society. Some people are known to enjoy involving themselves in crimes and aggression, and they seem not to regret their actions. With supporting evidence provided by scientists and some academicians, it is evident that this antisocial behavior is rooted in the genetic makeup of people. Preventing people genetically from committing antisocial behavior in the future has been proved to be challenging. However, based on the findings of the study, some approaches can be used to address this issue. The creation of awareness is one of the approaches that can be used to limit the possibility of genetically prone people from committing antisocial behavior. A large percentage of the population in the society is ignorant of the possibility of genetic crimes, and this can affect any effort of reducing these kinds of crimes/antisocial behavior. Creating awareness will therefore form a basis for analyzing the issue, defining crimes, and setting up an efficient legal framework that can aid in preventing antisocial behavior in the future. Based on the study, the creation of awareness can form a framework for sound education and psychological treatment among the victims of genetic crimes and the

society at large. Another possible way that can help in combating future antisocial behavior among genetically prone individuals is medical treatment. Although the most significant limitation of this approach is that scientists are yet to invent ways of altering genes to suppress the continuity of crimes among generations, the medical approach would be essential in influencing the genetic makeup of individuals, thus discouraging violent behaviors in the future. The findings of the study should be taken seriously to ensure that a lasting solution is obtained for the problem at hand. Therefore, the study serves as an important treasure for promoting the peace and safety of the general public while also making quality decisions that can improve the livelihoods of people. The study can also be used as a future reference for conducting more research on the topic

REFERENCES

- [1] D. Kuang, P. J. Brantingham, A. L. Bertozzi, Crime topic modeling, *Crime Science* 6(1) (2017) 12. DOI: <https://doi.org/10.1186/s40163-017-0074-0>
- [2] F. Forzano, P. Borry, A. Cambon-Thomsen, S. V. Hodgson, A. Tibben, M. Cornel, Italian appeal court: a genetic predisposition to commit murder?, *European Journal of Human Genetics* 18(5) (2010) 519-521. DOI: <https://doi.org/10.1038/ejhg.2010.31>
- [3] S. A. Mednick, W. F. Gabrielli, B. Hutchings, Genetic influences in crime convictions: Evidence from an adoption cohort, *Science* 224(4651) (1984) 891-894. DOI: <https://doi.org/10.1126/science.6719119>
- [4] L. Bevilacqua, S. Doly, J. Kaprio, Q. P. Yuan, R. Tikkanen, T. Paunio, D. Goldman, A population-specific HTR2B stop codon predisposes to severe impulsivity, *Nature* 468(7327) (2010) 1061-1460. DOI: <https://doi.org/10.1038/nature09629>
- [5] J. C. Shih, K. Chen, MAO-A and -B gene knock-out mice exhibit distinctly different behavior, *Neurobiology (Budapest, Hungary)* 7(2) (1999) 235-246.
- [6] H. G. Brunner, M. Nelen, X. O. Breakefield, H. H. Ropers, B. A. Vanoost, Abnormal behavior associated with a point mutation in the structural gene for monoamine oxidase-A, *Science*, 262(5133) (1993) 578-580. DOI: <https://doi.org/10.1126/science.8211186>
- [7] A. L. Byrd, S. B. Manuck, MAOA, Childhood Maltreatment, and Antisocial Behavior: Meta-analysis of a Gene-Environment Interaction, *Biological Psychiatry* 75(1) (2014) 9-17. DOI: <https://doi.org/10.1016/j.biopsych.2013.05.004>

- [8] B. C. Haberstick, J. M. Lessem, J. K. Hewitt, A. Smolen, C. J. Hopfer, C. T. Halpern, K. M. Harris, MAOA genotype, childhood maltreatment, and their interaction in the etiology of adult antisocial behaviors, *Biological Psychiatry* 75(1) (2014) 25-30. DOI: <https://doi.org/10.1016/j.biopsych.2013.03.028>
- [9] J. Tiihonen, W. R. Rautiainen, H. M. Ollila, E. Repo-Tiihonen, M. Virkkunen, A. Palotie, O. Pietiläinen, K. Kristiansson, M. Joukamaa, H. Lauerma, J. Saarela, S. Tyni, H. Vartiainen, J. Paananen, D. Goldman, T. Paunio, Genetic background of extreme violent behavior. *Molecular psychiatry* 20(6) (2015) 786-792. DOI: <https://doi.org/10.1038/mp.2014.130>
- [10] D. Kahn, Brain basis of self: self-organization and lessons from dreaming, *Frontiers in Psychology* 4 (2013) 408. DOI: <https://doi.org/10.3389/fpsyg.2013.00408>
- [11] P. Bennett, The heterogeneous effects of education on crime: Evidence from Danish administrative twin data, *Labour Economics* 52 (2018) 160-177. DOI: <https://doi.org/10.1016/j.labeco.2018.02.002>
- [12] B. Bell, R. Costa, S. Machin, Why Does Education Reduce Crime? *Journal of Political Economy*. 130(3) (2022) 1-10. DOI: <https://doi.org/10.1086/717895>
- [13] Z. M. Talib, R. K. Baingana, A. S. Sagay, S. C. Van Schalkwyk, S. Mehtsun, E. Kiguli-Malwadde. Investing in community-based education to improve the quality, quantity, and retention of physicians in three African countries, *Education for Health: Change in Learning and Practice* 26(2) (2013) 109-114. DOI: <https://doi.org/10.4103/1357-6283.120703>
- [14] C. M. Berryessa, N. A. Martinez-Martin, M. A. Allyse, Ethical, legal, and social issues surrounding research on genetic contributions to antisocial behavior, *Aggression and violent behavior* 18(6) (2013) 605-610. DOI: <https://doi.org/10.1016/j.avb.2013.07.011>
- [15] L. B. Andrews, *Predicting and punishing antisocial acts: how the criminal justice system might use behavioral genetics in behavioral genetics*. Johns Hopkins University Press, 1999.
- [16] A. Caspi, J. McClay, T. E. Moffitt, J. Mill, J. Martin, I. W. Craig, R. Poulton, Role of genotype in the cycle of violence in maltreated children - Fears of the future in children und young people. *Zeitschrift Fur Soziologie Der Erziehung Und Sozialisation* 25(2) (2005) 133-145.