

Brain And Criminal Behavior

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Introduction

The emerging field of neuro-criminology helps scientists identify patterns and evaluate the activities of the brain in order to identify criminal behaviors solely based on brain types. The criminology field is significant for criminal activities, but this emerging field will revolutionize the justice system. Not just identifying the criminals but also giving the appropriate amount of sentence to offenders based on their brain conditions. It will help prevent offenses and predict future crimes because advancements show patterns even in childhood. It was to be considered that crimes are only based on social and environmental factors, but researchers have given evidence of brain involvement, which shows the influence of the frontal lobe on criminal behaviors. The further discussion will answer the question regarding the brain and criminal behavior along with the emergence of techniques through the analysis of both criminal and on-criminal behaviors (Loeber, Byrd & Farrington, 2015).

Discussion

The relationship between criminal activity and brain function contains huge controversy and has been in the scientific debate, including philosophical and legal debates. If it is to be considered that the function of the brain plays a role in the criminal activity of any human being, what is the position of a criminal who is accountable for any offense? Research technologies have gained advancements that can examine the function of the brain through the scanning of brain techniques. These techniques have given mixed results so far, which has only increased the debate. The common result regarding the function of the brain showed that those who have committed a crime or a person who is a criminal have a different set of functions of the brain as compared to that person who is not an offender. These differences could be possible due to behavior, or it is assumed that the change occurred after the crime was committed (Loeber, Byrd & Farrington, 2015).

Particularly related to brain parts, the studies showed that criminal behavior occurred when any injury was done to the frontal lobe of the human brain. Magnetic resonance imaging, commonly referred to as MRI, showed in its result when examining the brain that the frontal lobe plays a role in the decision and planning behavior of human beings, including the control of self. The damage to the frontal lobe, as shown in the MRI result, develops the behavior that influences the human being to engage in social conduct in the abnormal sense. The other reason for considering the frontal lobe plays its role in criminal behavior is because of the influence it gets through the consumption of alcohol. This can give the idea that the frontal lobe plays a role when conducting any social act because alcohol also removes the common consciousness of making sane decisions (Smith, 2017).

The impairment of the ventromedial and amygdala in the frontal context of the lobe in the state of unstable brain condition leads to psychopathy. The number of criminals after being under the study of their brains shows injury in the past on their frontal lobe. They suffered the causality, which was the reason for their suitable behavior in social conduct. On the other hand, this should also be considered, as shown by the study, as not injury of the frontal lobe does not necessarily lead to criminal conduct because many cases have shown that people with the same injury never committed criminal acts. This is the reason that the debate is ongoing due to the complex structure of the brain and variances in the results. So, creating any link between criminal behavior and a dysfunctional brain is not an easy thing. The field of neurolaw debates over when and how the dysfunction of the brain can influence the behavior of a person, which leads to the rage caused by them. Therefore, further studies should be conducted on similar cases, which are needed in order to make a certain assumption regarding the matter or come to the conclusion of how influential the function of the brain can be in turning a person into a criminal and conducting any offense. Considering the facts and results have shown the role of the frontal lobe in criminal behavior is because of the influence it gets through the consumption of alcohol. This can give the idea that the frontal lobe plays a role when conducting any social act because alcohol also removes the common consciousness of making sane decisions (Woolhouse, McKinlay & Grace, 2017).

Several studies have been conducted in the field of neurosciences to solve the question of which parts can be the influential reason for criminal behavior. One recent and significant piece of research presented a few pieces of evidence that there are a few brain types that are different from the rest of the population, and those brains are criminals. Along with the understanding it provides to understand and evaluate the reason behind the criminal behaviors, it also raises questions related to the moral approach to dealing with such criminals and crimes. This evidence can be a guideline for society to make decisions based on the moral use of this knowledge (Woolhouse, McKinlay & Grace, 2017).

The minds of criminals, which is provided by the recent study that personality disorders, specifically being the antisocial 21 people to whom the study was being conducted, showed the signs of criminal behavior. The evidence provided by the study showed that such minds often ignore the moral approach regarding right and wrong, violating and committing crimes. The specific part of the brain, which is the middle frontal and frontal lobe, with a lack of gyrus in the anti-social individuals with no other mental problems, is the reason for this behavior. Psychopaths, as a result of anti-social behavior, create deformation in the parts of the brain, and that deformation is called the amygdala, which a result reduces the size of the brain as compared to a normal human being's brain. The deformation mentioned amygdala is the emotion, and the size is reduced due to being anti-social, which leads to a lack of emotion, and that is what a psychopath is. The emotions are remorse, guilt, and empathy, as shown in the study (Ray & Richardson, 2017).

The difference in the brain, whether because of deformation or any other reason if compared to those who haven't committed any offense, is because of the difference in behavior. The study which is an indication of this result differentiated the people living in o different sets of environments. Furthermore, this study includes tests of emotions such as fear and the reaction to fear both mentally

and physically. The lack of ear from those people who were part of the study later in their lives turned into criminals, and those who feared visible response mentally or physically led to normal lives. The clear differences in the biological structure of the brain under the neurological base of the crime showed that significant differences were found in those who have never committed any crime and those who have committed serious crimes of offense in their lives. The study also suggests that it is not compulsory that all anti-social behavior people and psychopaths are criminals or have always committed serious crimes, but those who have been part of any criminal offense were found to have differences in their brains.

All the differences that have been witnessed through different studies show that the tendency of the person to possess such traits will be visible at an early age, even before the person engages in the crime or offense. Following the results and findings can provide great help in preventing crimes and maintaining order through a proactive approach. The risk of becoming a potential crime can be seen and assumed during the age of seven to twelve, even before the crime is committed. In contrast, considering the fact that it can possibly change during their later lives (Barnes, Boutwell & Beaver, 2015).

The findings of different research raise the question of ethical choice. Those children who have the tendency to turn into psychopaths or social introverts need treatment because the doctors are hesitant regarding it. This is because it only tells the possibility rather than the certainty, and they haven't committed a crime, so why would doctors put them under the suggested treatments (Rusconi et al., 2016)?

The images were taken during the research in order to find out the significance and analysis of the role the function and structure of the brain play in human behavior. The images clearly indicate that there are clear differences in the brain structure of criminals and non-criminals. The findings of this research, as shown by the research, explain the impulsive and callous behavior of anti-social or psychopath behavior in conducting a crime or offense. The prefrontal cortex and the frontal lobe have a reduced connection, which stops or eliminates emotions such as fear and emotion, which leads to crimes. The impairment of the ventromedial and amygdala in the frontal context of the lobe, which is in a state of unstable brain condition, leads to psychopathy. The number of criminals after being under the study of their brains shows injury in the past on their frontal lobe. They have causality, which is the reason for their suitable behavior in social conduct. On the other hand, this should also be considered, as shown by the study, as not injury of the frontal lobe does not necessarily lead to criminal conduct because many cases have shown that people with the same injury never committed criminal acts. This is the reason that the debate is ongoing due to the complex structure of the brain and variances in the results. So, creating any link between criminal behavior and a dysfunctional brain is not an easy thing. The field of neurolaw debates over when and how the dysfunction of the brain can influence the behavior of a person, which leads to the rage caused by them. Therefore, further studies should be conducted on similar cases, which are needed in order to make a certain assumption regarding the matter or come to the conclusion of how influential the function of the brain can be in turning a person into a criminal and conducting any offense.

The other reason for considering the frontal lobe plays its role in criminal behavior is because of the influence it gets through the consumption of alcohol. This can give the idea that the frontal lobe plays a role when conducting any social act because alcohol also removes the common consciousness of making sane decisions. The difference in the brain, whether because of deformation or any other reason if compared to those who haven't committed any offense, is because of the difference in behavior. The study, which is an indication of this result, differentiated the people living in different sets of environments. Furthermore, this study includes tests of emotions such as fear and the reaction to fear both mentally and physically. The lack of fear from those people who were part of the study later in their lives turned into criminals and those who feared with visible responses mentally or physically led to normal lives. The clear differences in the biological structure of the brain under the neurological base of the crime showed that significant differences were found in those who have never committed any crime and those who have committed serious crimes of offense in their lives. The study also suggests that it is not compulsory that all anti-social behavior people and psychopaths are criminals or have always committed serious crimes, but those who have been part of any criminal offense were found to have differences in their brains (Gatti & Rocca, 2015).

The two types of them were collected during the study, and the white matter has reduced integrity in the structure, as shown in diffusion tensor images. It connects with the two areas of the brain that function according to the structure. On the other hand, the other type of image shows the otherwise result and a completely different structure of a normal population, and it has emotions that work according to normal functions (Nivedhini & Periyanyaki, 2017).

All the recent and new studies are exploring the function of brains with regard to their connection between criminal behavior and human brain structure. The main focus is on brain injuries, which, as mentioned earlier, the frontal lobe, when injured in any way, influences the behavior of human beings. The change in behavior is due to the deformation of the frontal lobe to the other parts of the brain. The decreased connection eliminates emotions such as fear and empathy, so human behavior tends to involve offensive and criminal conduct. The new technique also involves lesions and a diagram of wiring similar to the human brain. A number of high-profile criminal cases were assessed in recent studies, and similar results were obtained using the proposed techniques (Perlin & Lynch, 2016).

The minds of criminals, which is provided by the recent study that personality disorders, specifically being the antisocial person to whom the study was being conducted, showed the signs of criminal behavior. The evidence provided by the study showed that minds often ignore the moral approach regarding right and wrong and violate and commit. The specific part of the brain is the middle frontal and frontal lobe and a lack of gyrus in anti-social individuals with no other mental problems is the reason for this behavior. Psychopaths, as a result of anti-social behavior, create deformation in the parts of the brain, and that deformation is called the amygdala, which is a result reduces the size of the brain as compared to a normal human being's brain. The deformation mentioned amygdala is the emotion, and the size is reduced due to being anti-social, which leads to a lack of emotion, and that is what a psychopath is. The emotions are remorse, guilt, and empathy, as shown in the study (Fraldi et

al., 2016).

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The techniques for brain images help researchers and doctors to identify problems and analyze the human brain and its structure. There are a number of techniques approved by all the concerned hospital facilities for brain imaging (Meijers, 2015). The following are those techniques:

- fMRI: Functional magnetic resonance imaging helps in measuring the activities of the brain. This technique works by figuring out the oxygen level in blood, which occurs neutrally in the brain activity. The level of oxygen helps in detecting the mutative brain acts and the flow of blood in the brain. This technique also helps in looking at the involvement of the brain in different human activities overall.
- CT: Computed tomography is the technique that builds through different X-ray images of the brain. The procedure in this technique is based on sliding in and out of a cylindrical shape machine. The machine gives images of the structure and features of the brain through X-ray images.
- PET: Positron Emission Tomography is the technique used through radioactive material that gives the functional map of the brain. The overall image contains radioactive material, but the image where it shows high radioactive material determines brain activity.
- EEG: Electroencephalography determines the electrical activity that is being recorded through the device called electrodes placed on the head. This technique is used mostly by researchers, whereas before research, this method was used in order to go through specific methods.
- MEG: Magnetoencephalography is another technique with similar features of electrical activity, which is determined by the magnetic field. This technique is used mostly by researchers and in clinical practices where, before treatment, the method is used to go through specific methods.
- NIRS: Near-infrared spectroscopy is also being used to measure oxygen levels in the brain. By the use of light, it worked through infrared.

Neuroscientists have now started using the pattern and structure of the brain through different techniques to identify between criminal and non-criminal minds. They have discovered significance among both types of the brain, as mentioned earlier. The number of criminals after being under the study of their brains shows injury in the past on their frontal lobe. They have causality, which is the hardware reason for their suitable behavior in social conduct. On the other hand, this should also be considered, as shown by the study, as not injury of the frontal lobe does not necessarily lead to criminal conduct because many cases have shown that people with the same injury never committed criminal acts. This is the reason that the debate is ongoing due to the complex structure of the brain

and variances in the results. So, creating any link between criminal behavior and a dysfunctional brain is not an easy thing. The field of neurolaw debates over when and how the dysfunction of the brain can influence the behavior of a person, which leads to the rage caused by them. Therefore, further studies should be conducted on similar cases, which are needed in order to make a certain assumption regarding the matter or come to a conclusion about how influential the function of the brain can be in turning a person into a criminal and conducting any offense (Perez, Rubinstein & Dulac, 2016).

The lack of fear from those people who were part of the study later in their lives turned into criminals and those who feared with visible responses mentally or physically led to normal lives. The clear differences in the biological structure of the brain under the neurological base of the crime showed that significant differences were found in those who have never committed any crime and those who have committed serious crimes of offense in their lives. The study also suggests that it is not compulsory that all anti-social behavior people and psychopaths are criminals or have always committed serious crimes, but those who have been part of any criminal offense were found to have differences in their brains (Vaughn et al., 2014).

The researchers also emphasized the legal matter should also consider the results shown in their results. Before making a decision, the result will help determine what sentence should be given to offenders. The change in the brain types helped a lot in identifying whether the intention was based upon the criminal mindset, which can be seen through the results of research. The injury that has been mentioned earlier shows the front lobe of criminals is different from that of normal people. It's a challenge for both the fields of law enforcement and also for doctors to collaborate on such issues (Heylen et al., 2015).

Conclusions

The concluding remarks are based on the research work so far, which has been assumed to be based on the predictions, but its emergence is helping the health care and criminal department to deal with the behaviors influencing society rather than being only influenced by them. It was to be considered that crimes are only based on social and environmental factors, but researchers have given evidence of brain involvement, which shows the influence of the frontal lobe on criminal behaviors.

The researchers have gained advancements that can examine the function of the brain through brain tanning techniques. These techniques have given mixed results so far, which has only increased the debate. The common result regarding the function of the brain showed that those who have committed the crime or that person who is a criminal have a different set of functions of the brain as compared to that person who is not an offender. These differences could be possible due to behavior, or it is assumed that the change occurred after the crime was committed. Several studies have been conducted in the field of neurosciences to solve the question of which parts can be the influential reason for criminal behavior. One recent and significant piece of research presented a few pieces of

evidence that there are a few brain types that are different from the rest of the population, and those brains are criminals. The findings of this research, as shown by the research, explain the impulsive and callous behavior of anti-social or psychopath behavior in conducting the crime or offense. The prefrontal cortex and the frontal lobe have a reduced connection, which stops or eliminates emotions such as fear and emotion, which leads to crimes. The impairment of the ventromedial and amygdala in the frontal context of the lobe, which is in a state of unstable brain condition, leads to psychopathy. All the recent and new studies are exploring the function of brains with regard to their connection between criminal behavior and human brain structure. The main focus is on brain injuries, which, as mentioned earlier, the frontal lobe, when injured in any way, influences the behavior of human beings. The techniques for the brain images are fMRI, CTP, ETE, EGM, EG, and NIRS. The number of criminals after being under the study of their brains shows injury in the past on their frontal lobe. They suffered the causality, which was the reason for their unsuitable behavior in social conduct. On the other hand, this should also be considered, as shown by the study, that the injury of the frontal lobe does not necessarily lead to criminal conduct because many cases have shown that people with the same injury never committed any criminal act.

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