

# Criminology: A General Overview of the Common Mental Disorders of Serial Killers

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**Abstract.** This article is an overview of the common traits and mental disorders of serial killers, specifically antisocial personality disorder, schizophrenia, autism spectrum disorder, etc. By reviewing pertinent and current and past literature about serial killers and mental disorders, the passage discusses etiology, impacts, symptoms of the disorders. In the result and discussion part, by using various cases and experiences of serial killers, the article lists commons of criminals in different aspects: biological, psychological, and environmental factors. For biological aspect, the brain structure, neuro-chemical in brain, and genetic factors are discussed; for psychological aspect, relevant mental illnesses and personalities (using a Five-Factor Model research) are mentioned; the environmental aspect focuses on criminals' childhood and their family parenting. Last, the article illustrates the intervention with potential criminals who share the common disorders and traits with serial killers who have been caught. Overall, this review accumulates several previous papers of criminology and antisocial personality disorders, providing further information on intervention of at-risk individuals who are likely to become criminals.

**Keywords:** Antisocial Personality Disorder; Schizophrenia; Autism spectrum disorder; Conduct disorder; Criminology; Intervention.

## 1. Introduction

Jack the Ripper, the most brutal and notorious perpetrator, represents an example of serial sexual homicide. The crime took place between August and November 1888, around the White Chapel which was located at the east end of London. In 3 months, 5 female prostitutes were murdered, all five cases were believed to be the work of the same person. Because some commons were shown. The victims' throats were cut, and 4 of them got their abdomens cut. The murderer did gutting, disemboweling, and all the cases were perpetrated at night, on or close to weekend. Thus, this was being treated as a serial homicide. However, criminal has still not been found.

On the other hand, most of the other serial killers have been found. For example, Ted Bundy, he killed at least 30 women—the rave-robbing ghoul Ed Gein. He liked making furniture out of human skin and bones. Besides, the killer clown of Chicago, John Wayne Gacy, he procured boys by cruising around Chicago at night and picking them up off the streets, then attack them once they were in his home. Other crime cases are further discussed in the passage. By studying criminals' mental health, almost all of the killers were diagnosed with some mental symptoms.

A team of researchers have largely reached a consensus opinion that Ted suffers from antisocial personality disorder (ASPD). Similarly, John Wayne Gacy was diagnosed with ASPD. Moreover, Gacy was described to have borderline schizophrenia as well [1].

According to DSM-5, ASPD is diagnosis assigned to individual adults who habitually and pervasively disregard or violate the rights and considerations of others without remorse. People who have these traits but younger than 18 are considered as conduct disorder. While schizophrenia is a prototypical psychotic disorder that affects perception and undermines the part of our brain that knows that is real and what is not. Other than antisocial personality disorder and schizophrenia, most serial criminals have further more mental illness such as autism spectrum disorder.

However, for most of them, the criminals have antisocial personality disorder, while it may company with some other mental or psychotic diseases.

Exploring the occurrence of antisocial personality disorder and other mental diseases within the criminals holds significant potential for scientists and policymakers to design effective interventions to address potential crimes. Criminal behavior is a complex and multifaceted issue influenced by various factors, including mental health. By examining the prevalence of specific mental health conditions among individuals engaged in criminal activities, researchers are able to gain a deeper understanding of the psychological mechanisms contributing to criminal tendencies. This can help identify individuals who are likely to develop into criminals in the future, thus providing prevention and intervention programs. Providing appropriate mental health support, counseling, and treatment to those with criminal inclinations may offer them an opportunity to address the underlying issues driving their behavior, ultimately reducing the likelihood of future criminal acts. These research on people could bring such big merits for citizens and the society's safety.

## 2. Methodology

This paper is based on the reviews of pertinent research and studies found on Google Scholar and Yale library database. Some introductions of the criminals are searched on web-page (Bing.com).

Definitions of antisocial personality disorder and schizophrenia were obtained from DSM-V. The disorders of criminals and prevention of criminals are obtained from other related journals and books. A data analyse of the association between Five-Factor Model (FFM) with aggression and antisocial behavior is obtained from the meta-analytic review published by Shayne, Joshua, and Donald in 2011.

## 3. Results and Discussion

By reviewing eight journals on criminology, specifically serial homicide cases and antisocial personality disorders, we found commons and differences on the criminals' health condition and childhood experiences. These will be discussed in the following passage.

### 3.1. Criminals with Mental illness

This paper focuses on several serial cases. Each case provides information for different disorders.

David Berkowitz, known as a serial killer, murdered 6 people in New York City in 1976 to 1977. Berkowitz said that his neighbor's domonpossessed dog ordered him to murder. This phenomenon, hallucination, is a symptom of schizophrenia. Meanwhile, Berkowitz may suffer from sparation anxiety since he was adopted and was told that his mother died during childbirth.

Jeffrey Dahmer, another killer who murdered 17 people in 1978 to 1991, shows symptoms of Asperger syndrome, though he was not diagnosed of autism spectrum disorder. Jeffrey Dahmer was deemed to lack social communication skills [2], and he was aloner as a child. His teachers and peers regarded him as odd, shy, and rigid. Besides, he had difficulties with nonverbal communication. Jeffrey's father, Lionel Dahmer, suggested that Jeffrey always shows a rigid body posture: locking knees and stiffly dragging feet. The above traits described by people around Jeffrey Dahmer are the typical symptoms of autism spectrum disorder.

Similarly, the "night stalker", Richard Ramirez had autism spectrum disorder, too. The only difference is that Richard Ramirez sustained numerous head injuries, which were formed during his childhood. Traits that verify Richard Ramirez has autism spectrum disorder are preferring for being alone [3], and an inability to forge attachment [4].

### 3.2. Etiology

The formation of a certain disease is absolutely not from one single factor. Different causation combines together to impact a person. This paper is going to focus on the biological influences, psychological factors, and environmental impacts.

Biological influences are the genetic and brain structure of humans. To begin with, gene mutation can bring person different personalities compare to normal humans. For example, XYY syndrome—

—a person who obtains one extra copy of Y chromosome appears to be more aggressive than others. This genetic variation could be a contribution to crime [5].

In addition, unbalanced neuro-chemicals in brain also contributes to aggression. Similarly, dopamine, linked to reward-seeking behavior in the mesocorticolimbic system, is also associated with aggression, sometimes intensifying it and other times reducing impulsivity that could lead to abnormal aggression. The effect of GABA in aggressive behavior is intricately intertwined with serotonin, making the relationship highly complex [6].

Meanwhile, brain structures are considered to determine personality. Thus, head injury could change a person's mood entirely. For instance, a serial killer named Fred West, suffered from two accidents and both hurt his head. When he was 17 years old, Fred experienced a motorcycle accident that resulted in quite serious injuries. He remained unconscious for seven days and used braces to walk for several months. As a consequence of this event, he developed a severe phobia of hospitals and became prone to angry outbursts. Two years later, Fred sustained another head injury when a girl he touched inappropriately on a fire escape outside the Ledbury Youth Club punched him, causing him to fall from a height of two floors. Afterwards, he changed from mild and unaggressive to extremely moodiness. The even worse is, he sometimes experienced unconsciousness then he raped and killed [4]. A possible explanation could be the injury on Fred's amygdala—a brain structure that deals with fear and aggression. Dysfunction on amygdala can lead to a lack of fear emotion, that the patient might not feel afraid on anything [7]. Moreover, he may appear to be more aggressive and fractious than before the accidents.

Psychological factor is another etiology of antisocial personality disorder. Schizophrenia, a psychotic disease defined by continuously hallucination and delusion, is a common disorder in serial killers [8]. While patients are experiencing schizophrenia, they cannot feel their real-world surroundings.

Furthermore, childhood is a crucial period for a person to form cognition of the world. Any factor during this period could change a person lifelong. By studying their childhood experience, researchers found that most serial killers had experienced childhood trauma, which is another common share in criminals.

David Berkowitz's birth mother died after giving birth to him, so he blamed at himself. Being separated from his loved ones also caused him to suffer from separation anxiety. However, Berkowitz later discovered that his biological mother was not dead. The truth was that his mother had an affair with a married man and gave birth to him, which made him hate and despise his mother and wanted to kill her. It led Berkowitz to kill, and the victims were similar to his mother.

Richard Ramirez's father and great-grandfather committed extreme violence on him. Richard also suffered from sexual abuse by his cousin [4]. Besides, Richard witnessed one relative killed by another relative when he was 12. Furthermore, when he was 2, a dresser fell on top of him and hurt his head seriously; when he was 5, his head was hurt again—a swing in the park stunned him. These childhood experiences left him both physically and psychologically scarred. These factors very likely developed his antisocial personality.

In one prior study, researchers concluded that some murders suffer from broken family, and they cannot get a stable personality. As a result, they constantly seek to satisfy their desires through an abnormal way.

### **3.3. Results of prior studies and their implications**

Based on the previous research, serial killers share some commons among each other's. The most significant trait is their antisocial personality. In addition, some of them have other mental illness such as schizophrenia and autism spectrum disorder. For intervention, society should pay attention to people with antisocial personality disorder. Although not all ASPD patients would do crime, all criminals have ASPD. People also need to beware of people who are extremely aggressive and violent, since these are the symptoms of ASPD.

Adolescents with these traits and over 15 are very likely to be diagnosed with conduct disorder, which is an omen of ASPD in adulthood. At this stage, adolescents with conduct disorders who want to prevent ASPD should be given adequate support and treatment.

For younger teenagers, their surroundings should also be paid attention. Since children and teenagers are likely to study from observation, people around them should not be violent and aggressive, or teenagers and children may imitate them. A good example would be psychologist Albert Bandura's Bobo Doll Experiment: some preschoolers observe verbal and behavioral violence toward an inflatable doll and eventually learn to attack the doll in the same way.

On the other hand, in psychology aspect, Five-Factor Model, or FFM was developed to describe people's personalities in five aspects: neuroticism, extraversion, openness, agreeableness, and conscientiousness [9]. By connecting these characteristics with antisocial behavior and aggression, researchers could find commonalities between potential criminals' personalities.

According to Shayne, Joshua, and Donald's journal on personality, a study used a fixed-effects analysis to investigate the connections between the FFM personality traits and antisocial behavior (ASB) and aggression. The results showed that neuroticism was positively related to ASB, while agreeableness and conscientiousness were negatively related to ASB [10]. All mean effect sizes for aggression were significant. Comparing ASB to aggression, agreeableness and extraversion had similar negative effects, but there were differences in the effects of neuroticism, openness, and conscientiousness (See Table 1) [10]. The study also found significant heterogeneity among effect sizes, suggesting the presence of influencing factors in the relationships studied.

**Table 1.** Meta-analytic relations among the domains of the FFM, antisocial behavior, and aggression.

	% Male	Age	% White	Community(1) vs. Student (0)	Prison(1) vs. Student (0)	Community(1) vs. Prison(0)	NEO based	Self-Report ASB/Agg
<b>Antisocial Behavior</b>								
Neuroticism	-0.003	ns	ns	ns	ns	ns	ns	ns
Extraversion	ns	ns	ns	ns	0.088	ns	ns	-0.073
Openness	-0.002	ns	-0.003	ns	-0.086	ns	0.101	0.099
Agreeableness	ns	ns	0.002	ns	ns	ns	ns	ns
Conscientiousness	0.002	0.004	ns	ns	ns	ns	ns	ns
<b>Aggression</b>								
Neuroticism	0.001	0.007	ns	ns	ns	ns	-0.137	ns
Extraversion	-0.002	0.005	-0.004	0.092	ns	ns	ns	-0.069
Openness	ns	0.006	ns	0.088	ns	ns	0.095	ns
Agreeableness	0.002	ns	ns	ns	ns	ns	ns	ns
Conscientiousness	ns	0.009	0.119	0.119	0.102	ns	0.132	-0.074

ASB = Antisocial Behavior; Agg = Aggression

Bolded effect sizes are significant as their 95% confidence intervals do not include zero. K = number of effect sizes; n = sample size; Std Error = Standard error; Wgthed Avg ES = Weighted Average Effect Size; C.I. = Confidence Interval; Q = measure of heterogeneity.

The researchers conducted moderator analyses to explore the impact of certain factors on the relationships between personality traits and antisocial behavior (ASB). They found significant heterogeneity in effect sizes, prompting them to investigate six moderators: the percentage of male participants, average age of the sample, percentage of Caucasian participants, setting, and FFM assessment method (NEO PI-R or not), and self-reporting of outcomes [10]. About half of the analyses revealed statistically significant moderating effects [10]. For instance, Samples with fewer males showed more negative effect on ASB, while Agreeableness showed a more negative effect on ASB groups fewer Caucasians [10]. The relationships between Conscientiousness and ASB were influenced by the sample's age and gender composition [10]. Moreover, significant moderators were identified. Overall, these findings indicate that various factors can influence the associations between personality traits and antisocial behavior.

Childhood and parenting is another significant aspect. As the etiology part mentioned, majority of serial killers have experienced childhood trauma. To prevent this, parents should put more attention on their children and provide them a warm and loving growth environment.

For biological aspects, people should check their bodies to make sure there is no external or internal damage. Because some people have head injuries and damage to brain structures, this can make them change their temperament. Genetic testing is also important. If a person has inexplicable feelings, check if they have XYY syndrome.

## 4. Conclusion

### 4.1. Limitations and Improvements

This paper is a review of previous study and research, and all of the results are based on individual cases. However, this article references very few cases, so it is not enough to generalize about all serial killers worldwide. On the other hand, all the cases are from western countries, since cases from other regions are less detailed. To improve the review, more samples and data from different countries should be considered.

### 4.2. summary

For all serial killers, antisocial personality disorder is their common. Some of them have co-occurring disorders in addition of ASPD. Biological, psychological, and environmental factors all contribute to the killers' disorders. For biological, many criminals have genetic defect and brain structure dysfunction; for psychological, killers may suffer from schizophrenia, obsessive-compulsive disorder, autism spectrum disorder etc., by studying individuals' personality, based on the Five-Factors Model, people's characters are relate to aggression and anti-social behaviors; for environmental, most criminals have miserable childhood experiences. Based on these traits, experts can intervene with potential offenders and give them prompt treatment. Intervening potential criminals and suiting the remedy to the case could lead to a reduction in criminal activities, fostering a safer and more secure, empathetic, and harmonious society.

## References

- [1] Taylor, A. A.. Killer David Berkowitz's upbringing may explain his "son of Sam" murders. Ranker.2023
- [2] Davis, D. A. The Jeffrey Dahmer story: An American nightmare. St. Martin's Paperbacks. 1991
- [3] Carlo, P. The night stalker: The life and crimes of Richard Ramirez. Pinnacle Books. 2006
- [4] Stone, M. H. Serial sexual homicide: Biological, psychological, and sociological aspects. *Journal of Personality Disorders*, 15(1), 1-18 2001
- [5] Money, J., Gaskin, R. J., & Hull, H. Impulse, aggression and sexuality in the XYY syndrome. . *John's L. Rev.*, 44, 220.1968

- [6] Narvaes, R., & Martins de Almeida, R. M. Aggressive behavior and three neurotransmitters: dopamine, GABA, and serotonin—A review of the last 10 years. *Psychology & Neuroscience*, 7(4), 601. 2014
- [7] Haller, J. The role of central and medial amygdala in normal and abnormal aggression: A review of classical approaches. *Neuroscience & Biobehavioral Reviews*, 85, 34-43. 2018
- [8] Castle, T., & Hensley, C. Serial killers with military experience: Applying learning theory to serial murder. *International Journal of offender therapy and comparative criminology*, 46(4), 453-465. 2002
- [9] John, O. P., & Srivastava, S. The Big-Five trait taxonomy: History, measurement, and theoretical perspectives. 1999
- [10] Jones, S. E., Miller, J. D., & Lynam, D. R... Personality, antisocial behavior, and aggression: A meta-analytic review. *Journal of Criminal Justice*, 39(4), 329–337. 2011