

# Etiology and Treatment of ASPD from Biological, Neurological and Psychotherapeutic Perspectives

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**Abstract.** Antisocial Personality Disorder (ASPD) encompasses behaviors and cognitions that defy societal norms. ASPD originate in childhood and persisting into adulthood. Prior studies highlight high ASPD prevalence, especially among prison populations. Neurobiological research sheds light on structural brain abnormalities underlying ASPD's abnormal behaviors. ASPD's development links to childhood experiences, genetics, and societal factors, with familial influences playing significant roles. To be specific, numerous studies indicated that ASPD was closely related to childhood trauma and school bullying. Psychotherapy provides to be effective for ASPD's violence and abnormal behavior while drug therapy's cannot prove its effectiveness so far. Both Cognitive Behavioral Therapy (CBT) and Mentalization-Based Therapy (MBT) demonstrated efficacy in addressing ASPD, offering promising treatment avenues. The present study suggests that early intervention and education are vital for managing ASPD's impact, given its complex etiology and treatment challenges. Understanding ASPD's multifaceted nature and employing varied treatment approaches can enhance outcomes for affected individuals and society at large.

## 1 Introduction

Antisocial refers to behaviors or thoughts that are contrary to social norms and values, and that tend to cause harm to others or society [1]. According to the Diagnostic and Statistical Manual of Mental Disorders (DSM) scale, individuals with antisocial personality disorder often disregard the rights of others, always engage in deviant behavior, and violate the rights of others [2]. The incidence of ASPD in the community is estimated to be 3.4%, and correlations have been observed between the disorder and greater rates of criminal convictions, youth conduct issues, and a lower socioeconomic position. Different brain structures and functions have been identified by neurobiological research, especially in the prefrontal cortex and limbic system, which are involved in impulse control and emotional regulation. These variations shed light on the neurological underpinnings of the antisocial behaviours seen in people with ASPD. Absence of shame for abnormal behaviour and a lack of sense of social responsibility are traits of ASPD. The infamous serial killer Ted Bundy serves as an example of the most severe form of ASPD. He was labelled as psychopath (ASPD) and showed a persistent indifference to the welfare of others. The DSM diagnosis criteria for ASPD include a strong emphasis on behaviours that are considered antisocial, such as breaking the law, lying, impulsivity, aggression, recklessness, irresponsibility, and lack of guilt. The present study aims to gain a better understanding of the neurobiology, features, and

prevalence of ASPD which helps with affected persons' identification, prevention, and treatment plans.

## 2 Prevalence of ASPD

ASPD is a mental disorder characterized by a persistent pattern of disregard for and violation of the rights of others. Studies have demonstrated that ASPD is characterized by a particular aspect, including population, methodology, major findings, and limitations of the study [3]. Several studies have focused on understanding the characteristics of ASPD and have provided valuable insights into this mental disorder [4]. One study conducted by Blackburn and colleagues aimed to examine the prevalence and clinical characteristics of individuals with ASPD within a prison population. The population of this study consisted of 440 male prisoners, with an age range between 18 and 69 years. The methodology of the study involved conducting structured interviews and using standardized diagnostic criteria to assess the presence of ASPD [5]. The major findings of this study revealed that approximately 47% of the participants met the criteria for ASPD. Furthermore, the study found that individuals with ASPD were more likely to have a history of childhood conduct disorder and substance abuse. A limitation of this study is that it focused solely on a male prison population, which may not be representative of individuals with ASPD in the general population [6]. Another study conducted by Coid and colleagues aimed to examine the prevalence of ASPD among individuals in the community. The population of this study consisted of 3,039 individuals

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aged 16 to 64 years, living in households in the United Kingdom [7]. The methodology of the study involved administering structured interviews and using diagnostic criteria to assess the presence of ASPD. The major findings of this study revealed that the prevalence of ASPD in the community was approximately 3.4%. Additionally, the study found that individuals with ASPD were more likely to have a lower socioeconomic status, a history of childhood conduct problems, and a high rate of criminal convictions compared to those without the disorder [7]. A limitation of this study is that it relied on self-reported data, which may be subject to biases or inaccuracies.

### 3 Neurobiology of ASPD

Recent research has delved into the neurobiological underpinnings of ASPD, shedding light on the potential mechanisms that contribute to the development and manifestation of this condition. One study by Raine and colleagues explored the role of structural and functional brain abnormalities in individuals diagnosed with ASPD. Using advanced neuroimaging techniques such as magnetic resonance imaging and functional MRI (fMRI), the researchers found significant differences in the prefrontal cortex and limbic system between individuals with ASPD and healthy controls. These brain regions are involved in impulse control, emotional regulation, and decision-making, providing valuable insights into the neurobiological basis of the antisocial behaviors observed in individuals with ASPD. Prior study suggestion the correlation between neurobiological characteristics in ASPD and maladaptive behaviors [8].

## 4 Characteristics of ASPD

### 4.1 Mania without delusions

Research on antisocial personality is from Pinel's newspaper in 1806 sue to begin. At that time, the famous French psychiatrist Pinel newspaper sued a man for "being verbally provoked by a woman." The case of the woman thrown into the well". He attributed this pathological behavior to the deem in the psychiatric classification, it is called "mania without delusions" Since childhood or adolescence, individuals with ASPD lack the concept of social responsibility, so they do not feel guilty about deviant behavior. Their deviant behaviour ranges from acts that have a relatively minor impact on others, such as deception or fraud, to egregious acts such as assault, rape and even premeditated murder. Although not all offenders have ASPD, most individuals with ASPD are likely to break the law at least once in their lifetime. People with ASPD are widespread, and they tend to feel that others despise them and are not appreciated by others. Psychiatrist Hervey Cleckley once pointed out that "individuals with ASPD are 'forgotten mental disorders who may cause more misfortune and chaos to society than other mental disorders combined.'" Some scholars support this view,

arguing that ASPD does not seem to care about the well-being of others and does not possess the conscience that most ordinary people have.

### 4.2 Case of Ted Bundy

Ted Bundy was a prominent serial killer who terrorised communities between 1974 and 1978. Bundy was found guilty of three killings and given the death penalty on each of the three counts. Nonetheless, Bundy admitted to 30 killings at the time of his execution, though it is still unclear how many people he actually killed. It is thought that Bundy killed his first victim when he was twenty-two years old, which is older than eighteen. At three years old, Bundy crept into the room of his adolescent aunt, tucked butcher knives beneath the blankets, and just stood there grinning. In the book "The Need to Kill" written by Dr. Steven Egger, Dr. Van Austin discussed the final report on Ted Bundy in which he found Bundy not to be suffering from schizophrenia or psychotic). Bundy underwent several psychological tests and he was found to be intact psychologically. Famed psychiatrist Hervey M. Cleckley diagnosed Bundy with psychopathy, also known as ASPD. DSM have diagnostic criteria for antisocial personality Quasi places great emphasis on the description of the patient's antisocial behavior. For example, in the DSM- II. , antisocial personality includes those who are "socially opposed to an individual, organization, or society. " Values cannot be loyal, they are generally selfish, cold, irresponsible, Impulsive, without guilt or learning from experience and punishment, frustration and forbearance Under-forced, they tend to complain about others or their behavior over-ornamented" [6].

### 4.3 DSM and ASPD

In the latest DSM, the treatment for ASPD Diagnosis still places great emphasis on the description of the perpetrator's antisocial behavior, diagnosis The criteria are: A. occurs after the age of 15 years and is prevalent in others Neglect and infringement of rights, at least 3 (or more) of the following Manifestations: (1) Non-compliance with laws and social norms, manifested as repetition Conduct sufficient to result in arrest. (2) Fraud, manifested as: Lying repeatedly, using a false name, deceiving for one's own benefit or pleasure Others. (3) Impulsive, unplanned. (4) Irritable, possessive Aggressive, manifested as recurrent brawls or aggressiveness Sex. (5) Reckless and disregarding the safety of oneself or others. (6) Consistent irresponsibility. Manifests as recurrent infirmity Holding a job or ignoring financial responsibility. (7) Lack of guilt. manifestation Feel at ease after hurting, abusing or stealing from others Or it does not matter. B. Patient is at least 18 years of age. C. Patient is 15 years old Previously, there was evidence of an episode of conduct disorder. D. This anti-social behavior does not occur in more than just schizophrenia or a manic episode.

## 5 Etiology of ASPD

Every patient's experience with a personality disorder is different, and the causes are unique. There is no clear reason why some people experience symptoms of personality disorders and others do not. Most researchers believe that the following factors increase the risk of developing personality disorders: socio-environmental factors (e. g. early life experiences) and genetic factors. Human beings are social animals, each of them lives in the society. They must know the principle of mutual help, unity and friendship, it can be said that in the real society, no one can live independently from the social group.

### 5.1 Impact of family

The antisocial personality is a deformed personality, and a sociopath may live in a cold family of origin. In such a family, children cannot receive warmth and love, so they learn to see the world with hatred. For example, if someone has seen their parents quarrel in childhood, witnessed domestic violence, or even experienced domestic violence, emotional and physical abuse, then their child will feel that the family is not safe. In addition to the lack of love in their family of origin, sociopaths also struggle with interpersonal and social activities because it is difficult for them to fully devote themselves to a stable relationship. On the one hand, they do not trust each other, and on the other hand, the poor relationship with their family members has also become a hindrance to their social interaction. Individuals with antisocial personalities have been abandoned in their families, so feelings of insecurity and helplessness envelop them, and it is difficult for them to gain encouragement and support from others if they do not open their hearts. At the same time, because people with antisocial personalities are not good at interpersonal communication, they are easily disliked by their friends, which can deepen their inner traumatic experience.

### 5.2 Prior studies

A study of 37 children monitored by the University of Nijmegen in the Netherlands for nearly 20 years showed that childhood events such as illness and parental divorce can cause the prefrontal cortex, amygdala, and hippocampal gyrus to develop too quickly, and peer stress during puberty delays brain development. According to researcher Dr. Krakow Poland, premature brain puberty will make the brain less adaptable to the environment, affecting the development of personality and temperament in adulthood. In order to investigate the effects of stress on children's brains at different times, the stressors were divided into negative life experiences and negative social environmental influences, and the data from childhood (0-5 years old) and adolescence (14-17 years old) were analyzed, including children's interactions with parents and peers, and the results of brain MRI examinations. Research has shown that family factors and childhood experiences have a significant impact on an individual's propensity for

ASPD. This effect can be reflected in the differences in brain structure between the ASPD group and the general population.

Negative adolescent interactions, such as relationships, cause brain growth to be delayed, whereas negative childhood events, including illness and parent divorce, contribute to early brain development. Dr. Rakov Poland said that although there was no evidence that stress directly caused these two effects, based on animal experiments, the research team speculated that stress did affect brain development. " From an evolutionary perspective, children benefit from rapid brain development and the ability to handle stressful situations, but they are also more susceptible to brain rigidity and poor adaptability. Second, men who exhibited higher mental traits during childhood were more likely to experience abuse and neglect, particularly emotional neglect, emotional abuse, physical abuse, and sexual abuse. Parents' neglect and indifference to their children, and even abuse, will make children have defects in the development of empathy ability, problem-solving methods, etc., and produce wrong views of rewards and punishments and good and evil in future life, thus showing emotional instability, irresponsibility, lying, deception, indifference to violence and other behavioral characteristics.

The formation of ASPD is associated with frequent frustration in a person. That is to say, in life, if individuals pursue something, they often fail, and it is accompanied by a series of frustration experiences, in such a frustrated situation, they will develop the behavior of revenge against society. In the long run, it would form a psychological pleasure, which in turn forms the basis of his stable personality. Therefore, if a person is frequently frustrated and constantly subjected to external attacks on self-confidence or self-esteem, it will be an important cause for his development into an antisocial personality

### 5.3 Complexity of ASPD formation

Personality formation is complex, and researchers are still exploring how personality is formed and how genes influence development. It is likely that some part of the personality is inherited. People are born with different temperaments, for example, each baby's level of activity, attention, and ability to adapt to change can vary greatly. While some experts believe that genetics may influence the development of personality disorders, others point out that it is difficult to tell whether similar thoughts and behaviors are genetics or if children are imitated as they grow up. More research is needed in this area. The findings suggest that the incidence of ASPD is positively correlated with blood relations in kinship. That is, the closer the blood relationship, the higher the incidence. So it is not hard to understand that ASPD is actually an intergenerational trauma. Therefore, if the parents of a family are in the group of ASPD, their children will have a higher probability of having an antisocial personality. The above is interpreted from the perspective of genetics, in fact, it can also be interpreted from the perspective of

behavioral learning. If there is one person in a family who suffers from ASPD, it will inevitably have some influence on the family. Children spontaneously imitate their parents' behaviour. When he has some violent and aggressive behaviors, his child may naturally learn these behaviors in the first place, so that his child will have a higher probability of developing ASPD. However, the influence of heredity on a person's personality is relative, because different acquired conditions, such as environment, upbringing may produce completely different results for different people. Just like the multi-causal model of psychological abnormalities, the formation of personality is influenced by many factors such as genetic quality, living environment, cultural factors, social class, family and school, so it is not difficult to understand that these factors will also promote the formation of ASPD to a certain extent.

It is important to note that it is rare for a child or adolescent to be diagnosed with a personality disorder because the brain of a young child or adolescent is still developing, and their personality is still unformed and will develop and change. Follow-up studies have shown that many children and adolescents naturally no longer exhibit the characteristics of ASPD when they grow up. Only if, after a comprehensive assessment, the individual does meet the criteria for diagnosing ASPD, the expert can give a diagnosis with caution. Because this diagnosis can put a lot of stress on all aspects of their lives.

## 6 Treatment for ASPD

### 6.1 Psychotherapy

As with most other personality disorders, individuals with ASPD do not actively seek psychotherapy, but are often mandated by other institutions, and evaluation and treatment referred by the judiciary may be the most common source of referral. This makes ASPD difficult to treat because people who 'do not feel the need to change their cognitive and behavioral patterns. One of the reasons why the ASPD community needs specialised psychotherapy, in addition to its more destructive nature, is that is the presence of other psychological disorders in the ASPD component. If a person with ASPD initiates treatment, it is likely that the person has other comorbid psychological problems or mental disorders that cause him distress and discomfort. Up to 90% of individuals with ASPD have comorbid other psychiatric disorders, such as anxiety disorders, depressive disorders, or substance abuse. They may also need to overcome thoughts of self-harm and suicide.

There are few effective treatments for ASPD. Cognitive behavioral therapy (CBT) may be useful for people with mild to moderate ASPD, who are able to recognize what is wrong with their behaviour and have the motivation to improve it (e.g. motivation triggered by fear of losing their partner or job). CBT helps patients regain social functioning by guiding them to recognize distorted beliefs about themselves and others, and by improving behaviors that can impair their relationships. Recent studies have found that mentalization-based

therapy (MBT) is effective in ASPD, and it has previously been used to treat borderline personality disorder. It combines cognitive, psychodynamic, and other related content, and it is largely based on attachment theory. This structured, manual-based therapy has been modified to help individuals with conduct disorder and ASPD. Psychopathic therapy focuses primarily on improving the ability of individuals with ASPD to recognize and understand other people's and their own mental states (including thoughts, emotions, beliefs, and needs) (individuals with ASPD struggle to recognize even some of the basic emotions of others). Prior studies proved that anti-social behaviour could be released by CBT [9,10].

### 6.2 Drug therapy

The U. S. Food and Drug Administration has not approved drugs specifically for the treatment of ASPD. No drugs have been found to be effective in the treatment of ASPD. Doctor may prescribe medications to treat other psychological disorders with comorbidities, such as panic disorder or depression. However, drugs that are at risk of abuse and addiction (e. g. , benzodiazepines) are generally not recommended for individuals with ASPD. Some studies have found that second-generation antipsychotics (such as risperidone or quetiapine) plus antidepressants—selective serotonin reuptake inhibitors (such as sertraline or fluoxetine) reduce hyperaggression and impulsivity in people with ASPD. Lithium salts and carbamazepine (an anticonvulsant) also help people reduce these symptoms. However these drugs have had inconsistent clinical results.

## 7 Conclusion

In conclusion, ASPD is a serious mental disorder characterized by disregard for others' rights and social norms. ASPD's etiology involves a complex interplay of genetic, environmental, and developmental factors, often stemming from childhood experiences and familial influences. Psychotherapy options like CBT and MBT show promising result. Medication is Suggested to have side effects and erratic effectiveness. Early intervention and comprehensive assessment are crucial for managing ASPD's impact on individuals and society.

## References

1. E. Crocetti, J. D. Graaff, S. Moscatelli, L. Keijsers, H. M. Koot, M. Rubini, W. Meeus, & S. Branje. *J. Youth Adolesc.* , **45**(9), 1797-1811 (2016)
2. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders* (5th ed. ). Virginia: American Psychiatric Association
3. A. L. Glenn, A. K. Johnson, & A. Raine. *Curr. Psychiatry Rep.* , **15**(12), 427 (2013)
4. D. W. Black. *CNS Spectr.* , **20**(6), 1-9. (2015)

5. R. Blackburn, & J. W. Coid. *Br. J. Psychiatry*, **175**(1), 9-17 (1999)
6. R. B. Goldstein, S. P. Chou, T. D. Saha, S. M. Smith, J. Jung, H. Zhang, R. P. Pickering, W. J. Ruan, B. Huang, & B. F. Grant. *JAMA Psychiatry*, **73**(1), 39-47 (2016)
7. Y. Yang, & A. Raine. *Psychiatry Res. Neuroimaging*, **174**(2), 81-88 (2009)
8. Y. Liu, H. Zhao, S. Li, Z. Zhang, & B. Yang. *Adv. Psychol. Sci.*, **27**(10), 1726 (2019)
9. K. Davidson, J. Halford, L. Kirkwood, G. Newton-Howes, M. Sharp, & P. Tata. *Pers. Ment. Health*, **4**(2), 86-95 (2010)
10. A. E. Sargin, K. Özdel, & M. H. Türkçapar. *IntechOpen*. (2017)