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Understanding experts' views on perpetrators of homicide and sexual assault: Traits, Motives, and Prevention Strategies

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Abstract

This research examines the factors that contribute to murder and sexual assault by examining the specific experiences, attitudes, and motives associated with these crimes. The study uses a qualitative approach to investigate the personal and environmental factors that impact violent behaviours. It also assesses the efficacy of preventative interventions from the viewpoints of both offenders and victims. The research comprises comprehensive interviews with 10-20 persons who have been convicted, as well as an equivalent number of victims. Additionally, it involves conducting focus group discussions with professionals in the field, such as psychologists and social workers. Thematic and narrative analyses are used to detect recurring themes and analyse the tales and experiences reported by participants. The key results indicate that individuals who commit such acts often have psychological characteristics such as Antisocial Personality Disorder and narcissism. Additionally, their profiles are further complicated by drug addiction. Low levels of education, unemployment, and economic instability are other important variables that influence criminal conduct. The motivations for these crimes include aspirations for authority, monetary benefits, and reactions to psychological anguish. The research highlights the need of implementing holistic preventative techniques that target psychological features, socioeconomic situations, and motivational effects in order to decrease the occurrence of violent crimes and promote safer communities.

Keywords: Homicide, sexual assault, perpetrator traits, motivational influences, prevention strategies, qualitative research, thematic analysis, anti-social personality disorder, narcissism, socioeconomic factors, drug addiction, psychological distress

Introduction

A homicide occurs when one person intentionally kills another whether it is done by an action, arrangement, or failure to act. This term encompasses all instances of such killings, regardless of their legality. Traditionally, research on murder has focused on analysing the frequency and patterns of murder by analyzing the demographics of victims (gender, age, relationship status with perpetrators, and cause of death). (Behera & Sikary, 2021) ^[5]. Within the discipline of criminology, sexual homicide and rape are often seen as separate offenses, each having unique psychological foundations and motivations. Although legal categories are determined by evaluations of the severity of crimes rather than any kind of criminological or psychological examination, they have influenced this distinction to some extent. (Gabrielle Salfati & Taylor, 2006) ^[13]. To get a comprehensive understanding of sexual violence, it is imperative to go beyond a legal classification-based research viewpoint and instead pinpoint the psychological differences in crime scene behaviors that distinguish distinct sexually violent acts.

Sexual homicide is not defined in law has led to various attempts over time to propose definitions and identify the "True" sexual murderer (see Chan ND), (Higgs T, Carter AJ, Stefanska EB, & Glorney ND). According to some definitions (Beech A, Fisher D, & Ward ND), (Meloy ND, Myers ND, Porter S, Woodworth M, Earle J, Drugge J, & Boer ND), The intentional killing of an individual with proof of a sexual involvement is sexual homicide. Sexual activity is not necessary for a murder to be sexually satisfying for certain people in fact, murdering may be sexually pleasurable in and of itself.

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(Krafft Ebing ND, Money ND, Schlesinger ND) ^[28]. In 1988, Ressler, Burgess, and Douglas suggested an operationalized definition of sexual homicide that included six specific characteristics to help identify these cases: (a) what the victim wore, or did not wear, (b) revealing the victim's privates (c) revealing the victim's privates; (d) invading the victim's internal organs with extraneous items; (e) indications of having sex (oral, anal, or vaginal), and (f) proof of satanic fantasies, desire, or alternative sexual behavior.

A homicide-suicide (HS) is a complex and multi-faceted crime that happens when a person kills many people before ending their own life. Many terms for it include "extended-suicide", "murder-suicide" and "dyadic death". To comprehend the connection between these two events, it is essential to grasp the time aspect of the suicide act. The relationship between these two actions begs the issue of causality since it is possible to hypothesise that the murderous act is the result of the suicidal goal, which is to destroy oneself and everyone around them (Rouchy *et al.*, 2020) ^[27]. Though it may occasionally affect non-family members, HS is mostly recognized as an intrafamilial occurrence. Despite extensive media publicity, HS is still an uncommon condition with low incidence rates. The official HS rate varies from 0.27 to 0.38/100000 people in the United States, 0.2 to 1.55 in France, 0.89 in South Africa, 0.44 in Japan, 0.07 in Australia, 0.05 in England & Wales, 0.04 in Italy, and 0.2 in Finland, according to epidemiological statistics.

Legal professionals and laypeople's stereotypes might affect how people respond to crimes and how the legal system makes decisions, which could jeopardize equality under the law. The effects of perpetrator and victim sex as well as ethnicity on the offender's guilt, the event's severity, victim blaming, and the efficacy of the intervention have been the main areas of research on extra-legal variables impacting perceptions concerning domestic abuse (IPV), (Karlsson *et al.*, 2021) ^[17]. Domestic murder cases are the focus of this study, which investigates the impact of perpetrator-victim relationships on the public's perceptions of the crime's motivations, consequences, and potential for future violence.

A hybrid of sexual physical assault and sexual homicide involves actions indicative of sexual desires as well as sexual behaviours including penetration and masturbation. That could happen before or immediately following the killing act. Brutalist ideas about sex or the want to have sex after the victim dies might motivate someone to murder (Stefanska *et al.*, 2020) ^[30]. A victim's response to the rape, their decision not to disclose the attack, or scenarios in which consent was given may all serve as triggers. It is possible for the killing to take place before or immediately following the victim's death. It may also happen in a variety of settings.

A low-base rate occurrence worldwide, sexual homicide makes about 1% to 5% of all killings that are recorded each year. The disparity is ascribed to the uneven standards used when categorising this transgression. A set of defining criteria was put out by Chan (2015) ^[31] to standardise categorization. Research has examined the means of death used by sexual homicide perpetrators (SHOs), namely the armaments they employ, from various viewpoints and demographics. SHOs enjoy use their hands as a "close-contact weapon." It's unknown, however, whether female

SHOs choose the same weapon since So far, most studies have focused on men SHOs (Chan *et al.*, 2019) ^[8]. There has never been research that looks at how different sexes kill, especially when it comes to the kind of weaponry used and how vulnerable the victim is in terms of their gender and age. In murders with a sexual motive or connection, the physical strength theory does not significantly influence the offender-victim match. This study aims to examine the correlation between the genders of the killer and the victim in sexual murders, as well as the weapon type used in these crimes.

Sexual homicide (SH) is a violent crime that occurs infrequently and with decreasing rates over time. Because of its low base rates, researchers have difficulty obtaining trustworthy information regarding SH. But it's essential to advance SH knowledge and practices. SHs contribute to moral panic by inciting dread in communities and receiving widespread media publicity. A single murder investigation may cost up to \$20 million. These are time-consuming and expensive processes. Though the term "true" SH offender is not defined legally, efforts have been made to locate them (Chopin & Beauregard, 2019) ^[9]. Though some scholars contend that the act of killing alone might be considered sexual satisfaction, SH is traditionally characterized as purposeful killing combined with evidence of a sexual aspect. The FBI's definition, which classifies incidents of sexual harassment (SH) based on six factors victim's clothing, exposure of intimate parts, sexual positions, foreign objects, sexual contact, and substitute sexual activity is used in the majority of research. It is advised to search for situations containing several items in order to prevent false positives.

According to research, between 45 and 50 percent of people recover effectively from natural losses, exhibiting normal physical and psychological functioning within the first 12 months after the loss. Homicidal bereavement, on the other hand, does not fit within this pattern in cases of murder or manslaughter (Alves-Costa *et al.*, 2021) ^[11]. With a high lifetime incidence, chronicity, significant role impairment, mental health issues associated to homicide are a major issue on a global scale. It is crucial for both social and public health that persons grieving from murder have access to adequate supports. It is uncertain whether treatment models and therapies are beneficial for homicidally bereaved persons since there has not been a comprehensive evaluation on the effectiveness of psychological therapy after homicidal loss. Those who experience violent deaths are less likely than those who experience peaceful deaths to have significant and protracted psychological anguish and mental health issues.

Sexual assault is a serious societal problem that receives little scientific attention. It encompasses non-consensual sexualized contact, attempted penetration, and accomplished penetration. Survivors express detrimental consequences on their mental and physical health and their ability to pay the bills. Due to data constraints, the long-term effects of assault are mostly unclear. Between 20% to 25% of women along with 8% of males report exposure in college settings, with a much greater cumulative risk (Khan *et al.*, 2020) ^[18]. By the time they graduate from college, over one in six males and over one in three women had experienced sexual assault, which is indicative of the normalisation of sexual violence in society, especially against women. The likelihood of sexual assault is about 20% greater for women of college

age who are not enrolled in college than for those who are. This suggests that there is a significant lifetime risk of sexual violence, even though the risk is highest in younger individuals. Numerous disparities are probably significantly influenced by sexual assault, but little is known about the scope of these impacts, the underlying processes, or potential solutions.

Importance of studying perpetrator traits and motives

The main emphasis of psychoanalytic discourse of violence has been aggressiveness and associated feelings such as fury, hatred, cruelty, sadism, & brutality. On the other hand, there isn't a clear strategy for dealing with real violence committed by one person against another. While defines violence as interpersonal behaviour in which a thinking subject physically damages another human being, contends that violence is about physical acts. According to, violence entails hostility towards oneself and others as well as a desire to harm one's own ideas and those of others. However, the definition of violence is flexible, context-dependent, and subjective. It may take many different forms, ranging from individual acts to nation-states asserting their dominance. The therapeutic setting is the main topic of this piece, with particular attention on physical abuse committed against his spouse by one person, "Matthew". Through the therapeutic environment and procedure, the paper illustrates how a violent story may impact both the therapist and the patient. It might be difficult to listen to tales with violent plots. Because it establishes structure and acts as a counterpoint to violence, which is about violating limits, the psychoanalytic frame has significance (Andersson, 2022) [2]. Analysing a situation involves, among other things, figuring out what caused the person to use violence. While comprehending the violent behaviour is vital, the analyst's primary goal should be to comprehend the individual as a whole.

Significance of the study

This study is important because it thoroughly explores the factors that lead to homicide and sexual assault, emphasizing the characteristics and intentions of the offenders. This study seeks to address important gaps in current literature by examining how psychological, social, and environmental factors interact to influence violent behaviors. The results are anticipated to provide key information for policymakers, law enforcement, and mental health professionals in order to create better prevention and intervention tactics. Furthermore, this research aims to add to the general academic discussion by offering a nuanced comprehension of the root causes of these offenses, with the ultimate goal of improving public safety and backing evidence-based policies and programs.

Problem of the statement

The rising levels of murder and rape present major risks to public safety and societal welfare, requiring a more in-depth grasp of the root causes of these violent actions. Even with thorough research, the intricacies of perpetrator characteristics and motivations are still not fully understood, creating gaps that impede the creation of successful prevention methods. This research seeks to fill these voids by conducting a thorough examination of the traits and reasons behind offenders, while also assessing existing methods for prevention. Through the identification of

important factors and the evaluation of current efforts, the study aims to guide better prevention techniques, ultimately leading to a decrease in these atrocious offenses and improving community safety.

Objectives of the study

- To analyse perpetrator traits in homicide and sexual assault.
- To explore the motives behind homicide and sexual assault.
- To develop and evaluate effective prevention strategies.

Literature Review

(Graham *et al.*, 2022) [15]. To our knowledge, this is the first research to systematically examine the many ideas put up to account for the motivations behind domestic violence. It looked through fifteen different repositories and databases for theory-oriented articles published in English between 2003 and 2018. We were able to identify 22 distinct hypotheses from the 18 papers that fulfilled our inclusion criteria. All four of these schools of thought feminist, evolutionary, sociological/criminological, and combined make up the larger theoretical framework. This compilation of 22 theories of intimate partner homicide provides an orderly framework for understanding the basic principles and target groups of this kind of murder. Understanding IPH perpetration requires considering gender, risk, and protective variables across the board in the social ecology model, according to the review.

(Emma *et al.*, 2020) [12]. There are contradictory findings about potential determinants of homicide-suicides (HS), a significant public health concern. Based on a review of 49 research published between 1993 and 2019, eight variables were identified as risk factors for HS: Sociodemographic criteria, interpersonal dynamics, victim logical factors, psychopathological vulnerabilities, life experiences, motivational factors, and modus operandi. These variables were linked to HS cases. The typical HS offender is older, male, and has a history of troubled youth, trauma, and legal issues. Divorce, separation, or domestic violence are the leading causes of HSs within families. Two psychopathological features of HS include major depressive disorder and psychotic delusional beliefs.

(Chopin & Beauregard, 2020) [10]. The present research examines the procedure of crime commission and the reasons behind sexual homicides involving elderly individuals. The SHIELD database, which includes sexual homicide cases from France and Canada, is used as an example. In contrast to 513 incidents involving victims between the ages of 16 and 45, 56 cases included victims 65 and over. Two-step cluster analysis is conducted along with bivariate analyses. Results indicate significant variations in the criminal behavior patterns of the two categories of individuals. Additionally, we have found a typology of four groups for sexual homicides committed by older adults, classified according to their motives: Sexual, robbery, sadistic, and experimental. Sexual murders involving the elderly are rare, yet they are unique crimes that need research on their own.

(Skott *et al.*, 2021) [29]. Male sexual homicide offenders from Canada and Scotland were the subjects of this research. Each sample was subtyped using LCA, leading to the discovery of a three-category solution. Both samples showed two fairly comparable categories, Controlled-

Organized and Diverse, even though there were variations at the bivariate level. These shared features at the multivariate level point to shared mechanisms that explain sexual homicide offenders' diversity. The shared characteristics across the recognized subtypes of sexual murders raise the possibility that some of these crimes are common worldwide. Further research is needed to better identify and compare subtypes of sexual homicide across various jurisdictions, as this study has shown.

(Carlsson *et al.*, 2021) ^[6]. This research set out to assess socio-demographic characteristics in IPH offenders and matched controls from the general population, as well as to analyze instances of IPH committed by males and females. The participants were 48 males and 10 females who committed IPH in Sweden between the years 2000 and 2016. There were four hundred males and one hundred women in the control group; they were all age, sex, and parish matched. To explore relationships between socio-demographic and psychological traits, logistic regression was used. There was a disparity in the severity of murder convictions between male and female offenders, with no female offenders receiving life sentences. Female offenders were more likely to have been victims of intimate partner violence (IPV), while male perpetrators were more likely to be motivated by jealousy or a desire for separation. There were statistically significant disparities in the unemployment rate, welfare receipt, and disposable income of male offenders compared to male controls in the year leading up to the offense. More frequently than not, female offenders of IPH lacked education and were jobless.

(Chopin & Beauregard, 2021) ^[29]. The goals of the research are to (1) determine what drives sexual abuse of the elderly and (2) determine whether there is a correlation between perpetrator and modus operandi traits and the reasons for such abuse. There were four groups of perpetrators' reasons for sexually assaulting old people in France, based on a sample of 128 instances. Among them were sex, rage, possibilities, and trying new things. Offenders driven by experimentation made up a fourth group; they tended to be younger, inexperienced, and more prone to engaging in invasive sexual actions as well as physical assault. Some criminal and crime-specific traits were also linked to these motives, according to the research. In order to provide more effective treatments and enhance criminal investigations, it is crucial to comprehend the reasons behind sexual abuse of the elderly. (Paquette *et al.*, 2024) ^[24]. Focusing on the offenders' methods of operation, the victims' daily lives, and contextual factors, this research analyses the diversity of sexual violence perpetrated by many criminals. It found four distinct types of criminal behavior: Victim selection at random, offenders' mobility across geographic locations, assaults during social gatherings, and offenders' motivations that do not include sexuality. When sexual violence is perpetrated by more than one offender, the results provide light on the situational factors that influence the offenders' actions and the victims' daily lives. Discussed are the consequences of this diversity for police work, situational crime prevention tactics, and potential avenues for further study. (Beauregard & Chopin, 2023) ^[3]. Focusing on the offenders' methods of operation, the victims' daily lives, and contextual factors, this research analyses the diversity of sexual violence perpetrated by many criminals. It found four distinct types of criminal behavior: Victim selection at random, offenders' mobility across geographic locations,

assaults during social gatherings, and offenders' motivations that do not include sexuality. When sexual violence is perpetrated by more than one offender, the results provide light on the situational factors that influence the offenders' actions and the victims' daily lives. Discussed are the consequences of this diversity for police work, situational crime prevention tactics, and potential avenues for further study.

(Gimenez-Salinas Framis *et al.*, 2023) ^[3]. This research delves into the distinctions between sexual attacks perpetrated by strangers in Spain involving numerous perpetrators and those involving a single offender. The study looked at information from 400 cases of sexual assault that were reported to the Spanish police in 2010. Perpetrator traits, attack tactics, and victim profiles varied significantly, according to the research. Additionally, the research found that being older, using alcohol or drugs, not being a Spanish national, and using violence to control the victim were four factors that were predictive of multiple-perpetrator rape. According to the research, there is an immediate need for preventative measures because of the cultural and recreational aspects of Spanish culture that provide opportunity for rapes involving several perpetrators. Based on the results, it seems that some aspects of Spanish culture and leisure time make it easier for criminals to commit such crimes.

(Ploeg *et al.*, 2024) ^[25]. This study compares and contrasts sexual assaults in Spain that include many offenders with those that involve only one. Research for the research was based on data from 400 sexual assault incidents reported to Spanish authorities in 2010. Researchers found a wide range of perpetrator characteristics, assault strategies, and victim profiles. Other characteristics that were associated with an increased likelihood of multiple-perpetrator rape included an older age, substance abuse, not being a Spanish native, and the use of physical force to subdue the victim. Because of the cultural and recreational elements of Spanish society that allow for rapes involving several perpetrators, the study indicates that preventive measures are urgently needed. It seems that some parts of Spanish society and free time facilitate such crimes, according to the findings.

(Matias & Soeiro, 2023) ^[3]. The right to life is violated in the violent crime of homicide, which is mostly committed by males. Homicides that occur inside families are distinct from those that occur outside of them because of the lack of emotional ties between victims. Although various risk variables have varying contributions, prior violence is most strongly associated with intimate partner murders. In order to effectively fight and prevent murder, it is essential to understand the problem. In order to reduce the likelihood of recidivism, more programs should focus on reintegration, socialization, re-education, and reintegration. If we want to fight murder and stop it from happening again, we need to understand the problem. Additionally, additional efforts should be used to improve reintegration, socializing, re-education, and reintegration.

Research Gap

There are many important areas that clearly show a lack of research in the study of murder and sexual assault. Although prior research has been conducted, there is still a need for more comprehensive and refined characterizations of offenders, including their psychological, social, and demographic attributes. Furthermore, there is a dearth of

comprehension about the complex rationales underlying these aggressive actions, with less scrutiny of how many components converge to influence conduct. The existing preventative techniques need comprehensive examination and enhancement owing to their unverified efficacy. Furthermore, research often fails to integrate information from many disciplines, leading to a narrow viewpoint that impairs holistic understanding. Ultimately, the little study on the correlation between victims and offenders has the potential to provide valuable insights into how these connections impact the nature and frequency of these crimes. In order to create better therapies and support systems, it is essential to address these shortcomings.

Methodology

Research Design

In order to delve into the specific feelings, thoughts, and motivations related to sexual assault and murder, this study uses a qualitative methodology. The objective is to delve deeply into the personal and situational elements that impact these aggressive actions and to comprehend the efficiency of prevention tactics from the viewpoints of both offenders and targets.

Sampling

The research focused on two main categories people convicted of murder or sexual assault and the victims of these crimes. Participants were selected according to their readiness to present detailed personal experiences and their relevance to the research inquiry.

Sample Size

Around 10-20 individuals will be chosen from each group, making a total of 40-60 participants. This particular sample size is selected to enable comprehensive, intricate data collection while also guaranteeing analysis is contained and thorough.

Sampling procedure

- **Perpetrators:** Individuals were selected from prisons or through legal and psychological experts within the criminal justice system.
- **Victims:** Individuals were sought through victim advocacy groups, organizations, or community engagement efforts. Steps were taken to guarantee a diverse presence with respect to both demographics and type of crime.

Data collection

- **In-Depth Interviews:** Both offenders were interviewed using a semi-structured format and victims to gain an in-depth understanding of their personal experiences, views and perceptions. The interviews used a flexible interview guide consisting of open-ended questions.
- **Focus Groups:** Professionals (such as psychologists, social workers) and community stakeholders will participate in group discussions to gather expert opinions and collective insights on perpetrator traits, motives, and prevention strategies.

Data sources

The research gathered information from a variety of sources to provide detailed insight into the causes of homicide and

sexual assault. Primary data was collected from perpetrators to explore their psychological profiles, personal experiences and motivations. Victims were also questioned to examine the emotional effects and their opinions on support services and prevention measures. In addition, experts such as psychologists, social workers and law enforcement officials will provide expert views and assessments on the characteristics of the perpetrator and the impact of prevention strategies. Secondary data is obtained from current literature such as academic journals and case studies to provide context for the results and analyse them against existing research. This method of collecting information from multiple sources will guarantee a comprehensive investigation of the factors influencing these violent behaviours.

Inclusion & Exclusion Criteria

- **Inclusion Criteria:** This research includes individuals convicted of homicide or sexual assault, survivors of these crimes, and professionals with relevant expertise (e.g., psychologists, social workers).
- **Exclusion Criteria:** Those currently involved in ongoing legal proceedings related to their crimes, individuals with severe cognitive impairment, and those who do not provide informed consent will be excluded.

Tools & Techniques

The gathered data evaluated using excel tools such as percentages, and displayed in tables and graphs.

Data Analysis

Thematic analysis was used to identify and assess recurrent patterns and themes within the data. This involved coding the data and categorising it into broad themes that represent significant experiences and perspectives. Narrative analysis was also applied to interpret the stories and experiences shared by the participants, which would provide more in-depth insights into their context and meanings.

In this study we employ thematic analysis to examine the qualitative data of the murder and sexual assault offenders' traits, distinction, risk factors, intervention tactics, public perception, policy consequences, and psychological profiles. One way to find patterns (themes) in data is to use thematic analysis, a method from qualitative research. It is especially effective for studying the perspectives and insights of specialists in subjects such as criminology and psychology, since it provides for a thorough comprehension of difficult situations. This research uses theme analysis to investigate and synthesise expert perspectives on homicide and sexual assault perpetrators, with the goal of providing a thorough knowledge of the underlying variables, behaviours, and viable intervention techniques.

Results and Discussion

Theme 1: Psychological and Socioeconomic Profiles of Perpetrators

1. With regard to this theme, participants were requested for what psychological traits and mental health issues are commonly observed among individuals who commit homicide and sexual assault? The researcher has asked this question in the form of interviews to understand the Drivers of Homicide and Sexual Assault. The details are given below.

At the time of the interview the participants have answered with the following statements.

- **(Resp1):** Individuals with ASPD (Antisocial Personality Disorder (ASPD)) often exhibit a long-standing practice of manipulating, exploiting, or abusing the rights of others without remorse. This tendency is frequent among persons who commit murder and sexual assault.
- **(Resp2):** A large proportion of criminals lack empathy, which means they are unable to comprehend or share the sentiments of others, allowing them to damage others without feeling bad.
- **(Resp3):** Individuals who engage in violent crimes often have elevated levels of anger and impulsivity. These characteristics might result in impulsive acts of aggression without regard for the repercussions.
- **(Resp4):** Certain individuals who commit offenses have characteristics of narcissism, including a sense of grandiosity, a strong need for praise, and a lack of empathy. They may engage in criminal activities to establish control or satisfy their own needs without considering the well-being of others.
- **(Resp5):** There is a strong correlation between substance misuse and aggressive conduct. Substance abuse, namely drugs and alcohol, may hinder one's

- ability to make sound decisions and raise the probability of engaging in violent and impulsive behaviours, such as murder and sexual assault.
- **(Resp6):** A significant number of individuals who commit crimes have a background of experiencing abuse throughout their early years, which may play a role in the emergence of aggressive and violent tendencies in adulthood.
- **(Resp7):** Paranoia, characterized by unfounded mistrust and suspicion towards others, may compel people to engage in aggressive behaviour under the belief that they are protecting themselves from imagined dangers.
- **(Res8):** Emotional difficulties may give rise to intense responses to stress or conflict, which might manifest as violent outbursts like murder or sexual assault.
- **(Resp9):** Sexual assault abusers often exhibit aberrant sexual desires or fantasies that motivate their unlawful actions. This might include a want for authority and dominance over their targets.
- **(Resp10):** Untreated symptoms of some mental diseases, such as schizophrenia or bipolar disorder, may lead to aggressive conduct. Nevertheless, it is crucial to acknowledge that not all persons afflicted with mental illness exhibit aggressive behaviour.

Table 1: Psychological traits and mental health issues are commonly observed among individuals who commit homicide and sexual assault

Statement	Count
Individuals with ASPD (Antisocial Personality Disorder (ASPD)) often exhibit a long-standing practice of manipulating, exploiting, or abusing the rights of others without remorse. This tendency is frequent among persons who commit murder and sexual assault.	5
Sexual assault abusers often exhibit aberrant sexual desires or fantasies that motivate their unlawful actions. This might include a want for authority and dominance over their targets.	1
Certain individuals who commit offenses have characteristics of narcissism, including a sense of grandiosity, a strong need for praise, and a lack of empathy. They may engage in criminal activities to establish control or satisfy their own needs without considering the well-being of others.	4

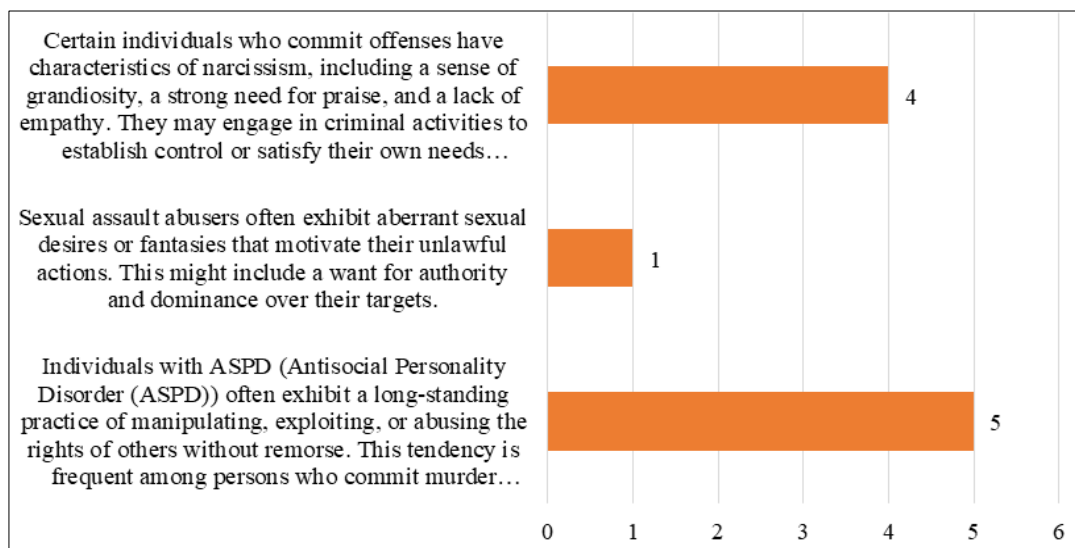


Table 1 describes the psychological characteristics and mental health concerns that are often identified in those who commit murder and sexual assault. From the 10 responds 5 are stated that Individuals with ASPD (Antisocial Personality Disorder (ASPD)) often exhibit a long-standing practice of manipulating, exploiting, or abusing the rights of others without remorse. This tendency is frequent among persons who commit murder and sexual assault. Another 4 are stated that certain individuals who commit offenses have characteristics of narcissism, including a sense of

grandiosity, a strong need for praise, and a lack of empathy. They may engage in criminal activities to establish control or satisfy their own needs without considering the well-being of others. And finally 1 stated that Sexual assault abusers often exhibit aberrant sexual desires or fantasies that motivate their unlawful actions. This might include a want for authority and dominance over their targets.

2. With regard to this theme, participants were requested for how do socioeconomic factors such as education, employment status, and family background influence

the likelihood of an individual committing homicide or sexual assault? The researcher has asked this question in the form of interviews to understand the drivers of homicide and sexual assault. The details are given below.

At the time of the interview the participants have answered with the following statements.

- **(Resp1):** There is a strong correlation between lower levels of education and greater crime rates. Insufficient educational achievement may lead to reduced job prospects, prompting people to resort to criminal behaviour as a means of economic sustenance. On the other hand, attaining greater levels of education might improve career opportunities and decrease the probability of participating in such activities. **(Resp2):** Higher crime rates are associated with unemployment and job instability. Economic stress, frustration, and a sense of hopelessness may be experienced by individuals who are unemployed or underemployed, which can increase the likelihood of engaging in illicit activities, such as sexual assault and homicide.
- **(Resp3):** Areas with considerable wealth disparity may see greater crime rates. Individuals in lower socioeconomic groups may feel excluded or disenfranchised, which may lead to greater criminal activity as a coping mechanism for economic inequality.
- **(Resp4):** A family history of instability, neglect, or abuse may dramatically increase an individual's probability of committing a crime. Exposure to domestic violence, drug addiction, or criminal activity within the family might normalize such behavior and increase the likelihood of participating in similar activities.
- **(Resp5):** Individuals who grow up in environments where criminal behavior is normalized or where positive role models are lacking are at a higher risk of committing crimes. Family and community influences play a crucial role in shaping behavior, and negative socialization can contribute to criminal tendencies.
- **(Resp6):** Insufficient availability of resources such as mental health care, social support, and community initiatives might heighten the probability of engaging in criminal activities. Individuals experiencing socioeconomic adversity may lack the requisite support networks to address their challenges via lawful means.
- **(Resp7):** The likelihood of participating in criminal acts may rise if one lives in regions with high crime rates. The existence of criminal conduct in one's surroundings might generate an ambiance of violence and hostility, prompting others to partake in like actions.
- **(Resp8):** Peer organizations and social networks are frequently influenced by socioeconomic factors. Peers participating in illegal activities are more common among those from poorer socioeconomic backgrounds, which may enhance the chance of committing murder or sexual assault.
- **(Resp9):** Increased aggression and illicit behavior can be influenced by socioeconomic stressors, including financial hardship, housing instability, and insufficient access to fundamental necessities. Individuals may exhibit violent behavior or engage in detrimental behaviors as a result of chronic tension and frustration.
- **(Resp10):** The presence and efficacy of legal and social support systems may impact criminal conduct. Insufficient support mechanisms for persons experiencing socioeconomic difficulties might result in a dearth of intervention and prevention, hence increasing the probability of engaging in criminal behaviors.

Table 2: Socioeconomic factors such as education, employment status, and family background influence the likelihood of an individual committing homicide or sexual assault

Statement	Count
There is a strong correlation between lower levels of education and greater crime rates. Insufficient educational achievement may lead to reduced job prospects, prompting people to resort to criminal behavior as a means of economic sustenance. On the other hand, attaining greater levels of education might improve career opportunities and decrease the probability of participating in such activities.	5
Individuals who grow up in environments where criminal behavior is normalized or where positive role models are lacking are at a higher risk of committing crimes. Family and community influences play a crucial role in shaping behavior, and negative socialization can contribute to criminal tendencies.	5

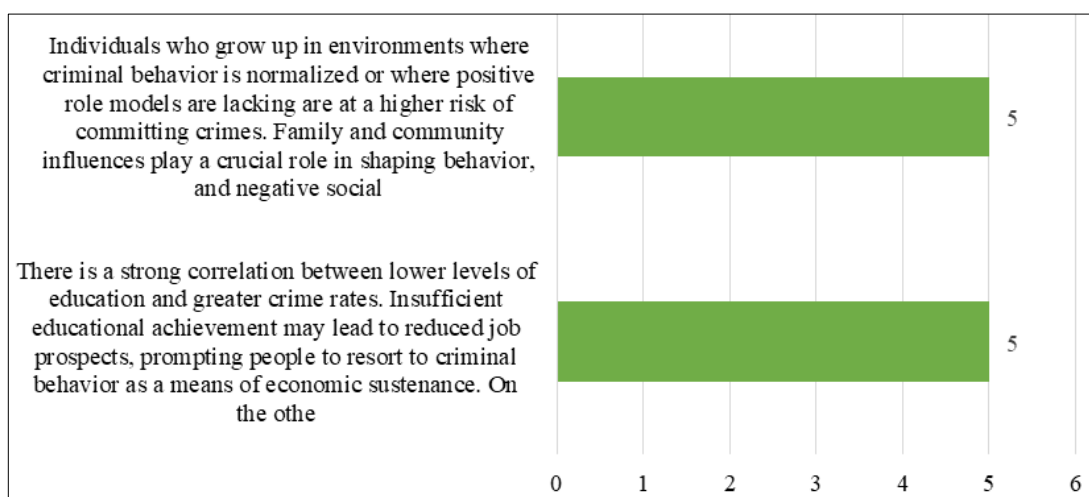


Table 2 shows how socioeconomic characteristics affect the chance of committing murder or sexual assault. Out of the 10 respondents, 5 have claimed that lower levels of education are significantly associated with higher crime rates. Insufficient educational achievement may lead to reduced job prospects, prompting people to resort to criminal behavior as a means of economic sustenance. On the other hand, attaining greater levels of education might improve career opportunities and decrease the probability of participating in such activities. And other 5 are stated that Individuals who grow up in environments where criminal behavior is normalized or where positive role models are lacking are at a higher risk of committing crimes. Family and community influences play a crucial role in shaping behavior, and negative socialization can contribute to criminal tendencies. The significance of socialization in shaping behavior and the possibility for negative social influences to produce criminal tendencies are shown by the fact that individuals who grow up in settings where criminal conduct is commonplace or where positive role models are few are more prone to commit crimes.

Theme 2: Motivational Factors and Prevention Strategies

1. With regard to this theme, participants were requested for what motivational factors drive individuals to commit homicide or sexual assault, and how can understanding these motivations inform the development of targeted prevention strategies? The researcher has asked this question in the form of interviews to understand the drivers of homicide and sexual assault. The details are given below.

At the time of the interview the participants have answered with the following statements

- **(Resp1):** Numerous perpetrators of sexual assault and homicide endeavors to establish authority and control over their victims. Understanding this motivation can result in prevention strategies that prioritize the promotion of healthy relationships, consent education, and empowerment initiatives, with the objective of reducing power imbalances.
- **(Resp2):** Certain persons engage in criminal activities as a means of seeking retribution or vengeance for perceived injustices. To mitigate this issue, prevention techniques may be implemented via the provision of conflict resolution programs and assistance in resolving

- complaints through non-violent means.
- **(Resp3):** Financial incentives, such as robbery or the financial advantages of a crime, may motivate people to perform violent crimes. Economic support programs, job training, and cash aid may all be used as prevention tactics to combat economic despair.
- **(Resp4):** High degrees of psychological discomfort or mental illness may serve as motivators. Understanding this may lead to improved mental health services and early intervention programs that detect and treat mental health disorders before they progress to criminal conduct.
- **(Resp5):** Peer influence and social pressure may motivate someone to commit crimes in order to fit in or earn approval. Prevention techniques might concentrate on developing strong, positive peer networks and encouraging resistance to unfavourable social effects.
- **(Resp6):** In certain circumstances, cultural or societal standards may justify or normalize violent conduct. Addressing these norms via public education and community engagement may assist to change attitudes and lower tolerance for violence.
- **(Resp7):** The likelihood of perpetrating violent acts can be increased and discernment can be impaired by substance abuse. Substance abuse treatment programs, education regarding the hazards of drug and alcohol consumption, and assistance with addiction recovery are potential prevention strategies.
- **(Resp8):** Individuals who have been subjected to trauma or victimization may be more susceptible to committing violent acts. The provision of trauma-informed care, support for survivors, and intervention programs for individuals with a history of trauma can be the focus of prevention efforts.
- **(Resp9):** Criminal behavior can be influenced by isolation and a lack of social support. This risk factor can be mitigated by strengthening community support systems, establishing social networks, and providing resources for individuals who are experiencing social isolation.
- **(Resp10):** Exposure to violence, whether via media or personal experiences, may lead to desensitization in people and create a perception that violent action is more socially acceptable. Preventive measures may include media literacy initiatives, advocacy for non-violent role models, and dissemination of knowledge on the ramifications of violence.

Table 3: Motivational factors drive individuals to commit homicide or sexual assault

Statement	Count
Numerous perpetrators of sexual assault and homicide endeavors to establish authority and control over their victims. Understanding this motivation can result in prevention strategies that prioritize the promotion of healthy relationships, consent education, and empowerment initiatives, with the objective of reducing power imbalances.	2
High degrees of psychological discomfort or mental illness may serve as motivators. Understanding this may lead to improved mental health services and early intervention programs that detect and treat mental health disorders before they progress to criminal conduct.	2
Financial incentives, such as robbery or the financial advantages of a crime, may motivate people to perform violent crimes. Economic support programs, job training, and cash aid may all be used as prevention tactics to combat economic despair.	2
The likelihood of perpetrating violent acts can be increased and discernment can be impaired by substance abuse. Substance abuse treatment programs, education regarding the hazards of drug and alcohol consumption, and assistance with addiction recovery are potential prevention strategies.	4

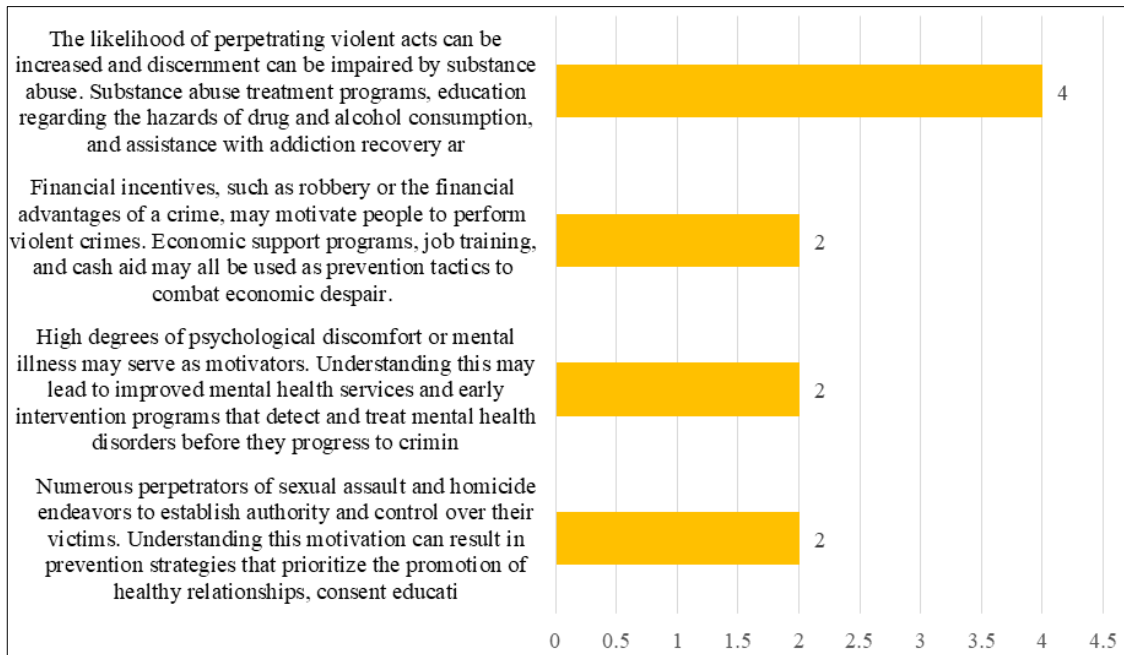


Table 3 depicts the many motivating elements that lead persons to commit murder or sexual assault. It notes that a primary motive for these crimes is the goal of authority and control over victims, underlining the need for preventative efforts centered on encouraging healthy relationships, consent education, and empowerment to overcome power imbalances. From the 10 responds 2 are stated that numerous perpetrators of sexual assault and homicide endeavors to establish authority and control over their victims. Understanding this motivation can result in prevention strategies that prioritize the promotion of healthy relationships, consent education, and empowerment initiatives, with the objective of reducing power imbalances. 2 are stated that High degrees of psychological discomfort or mental illness may serve as motivators. Understanding this may lead to improved mental health services and early intervention programs that detect and treat mental health disorders before they progress to criminal conduct. Another 2 are stated that financial incentives, such as robbery or the financial advantages of a crime, may motivate people to perform violent crimes. Economic support programs, job training, and cash aid may all be used as prevention tactics to combat economic despair. And finally 4 are stated that the likelihood of perpetrating violent acts can be increased and discernment can be impaired by substance abuse. Substance abuse treatment programs, education regarding the hazards of drug and alcohol consumption, and assistance with addiction recovery are potential prevention strategies. Finally, substance abuse has been proven to increase the chance of violent conduct, emphasizing the necessity of substance abuse treatment programs, drug and alcohol risk education, and addiction recovery support as key preventative efforts.

2. With regard to this theme, participants were requested for how can prevention strategies be designed to address the root causes of criminal behavior, such as socioeconomic disparities and psychological stress, to effectively reduce the incidence of homicide and sexual assault? The researcher has asked this question in the form of interviews to understand the drivers of homicide and sexual assault. The details are given below.

At the time of the interview the participants have answered with the following statements.

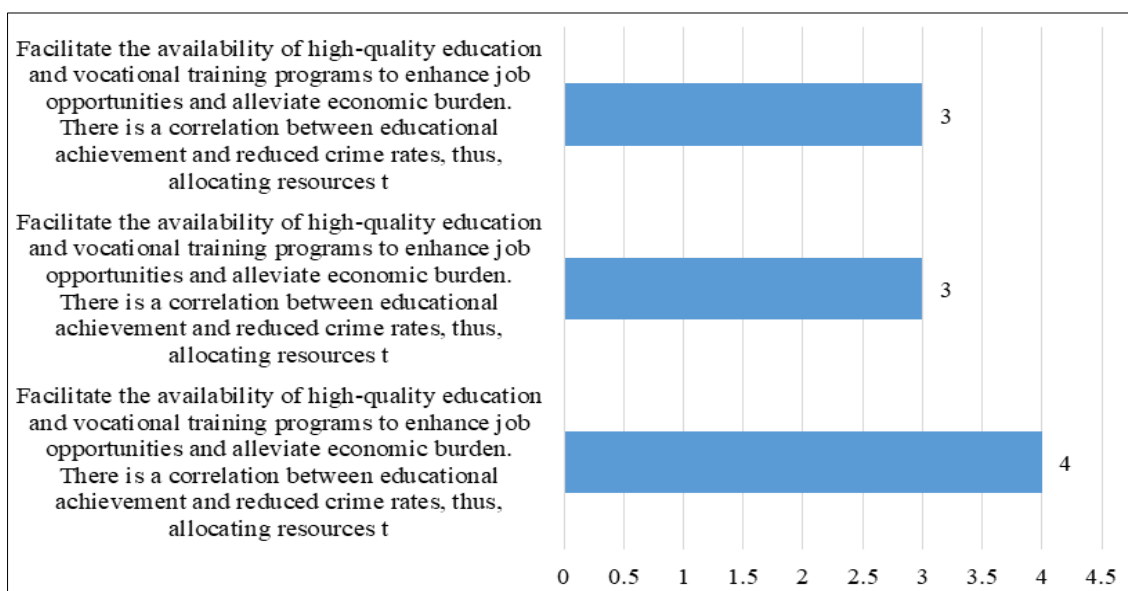
- **(Resp1):** To improve employment prospects and reduce financial strain, make high-quality educational and vocational training programs more accessible. Given the link between higher levels of education and lower crime rates, it stands to reason that investing in education might help address the root reasons of criminal behavior.
- **(Resp2):** Create software applications that generate work prospects and offer monetary aid to persons experiencing joblessness or inadequate employment. Enhanced economic stability mitigates the anxiety and despair that might precipitate criminal behavior.
- **(Resp3):** Enhance accessibility of mental health treatments, such as counselling and therapy, to effectively tackle psychological stress and trauma. Timely intervention may deter people from engaging in illegal action as a means of coping.
- **(Resp4):** Develop and execute initiatives aimed at assisting families facing difficult circumstances, such as providing educational courses on effective parenting, offering professional guidance for family-related issues, and delivering assistance to those affected by domestic abuse. Enhancing the cohesion of family groups may decrease the probability of persons participating in criminal behavior.
- **(Resp5):** Create community initiatives that provide social assistance, mentorship, and leisure pursuits. Active participation and involvement of the community may contribute to the development of resilience and decrease the attractiveness of engaging in criminal activities.
- **(Resp6):** Integrate violence prevention and conflict resolution education into school curricula and community initiatives. Providing people with education on non-violent methods of dispute resolution may decrease the occurrence of violent crimes.
- **(Resp7):** Provide comprehensive programs for the prevention and treatment of substance abuse. Reducing the probability of illicit behavior associated with drug

- use or its consequences can be achieved by addressing addiction issues.
- **(Resp8):** Enhance social safety nets, which encompass emergency support services, nutritional assistance, and healthcare. The economic constraints that may induce illicit activities can be mitigated by guaranteeing that individuals' fundamental requirements are met.
- **(Resp9):** Create and provide assistance to programs that facilitate the reintegration of incarcerated individuals

- into society. Reintegration programs that are effective can assist former offenders in leading productive lives and reduce recidivism.
- **(Resp10):** Invest in early childhood development programs that provide assistance to children who are at risk. Early intervention can establish a foundation for healthful development and mitigate future criminal behavior.

Table 4: Prevention strategies be designed to address the root causes of criminal behavior

Statement	Count
Facilitate the availability of high-quality education and vocational training programs to enhance job opportunities and alleviate economic burden. There is a correlation between educational achievement and reduced crime rates, thus, allocating resources to education may assist alleviate the underlying causes of criminal conduct.	4
Facilitate the availability of high-quality education and vocational training programs to enhance job opportunities and alleviate economic burden. There is a correlation between educational achievement and reduced crime rates, thus, allocating resources to education may assist alleviate the underlying causes of criminal conduct.	3
Facilitate the availability of high-quality education and vocational training programs to enhance job opportunities and alleviate economic burden. There is a correlation between educational achievement and reduced crime rates, thus, allocating resources to education may assist alleviate the underlying causes of criminal conduct.	3



The table summarizes preventative initiatives aimed at addressing the underlying causes of criminal behavior, with an emphasis on education and vocational training. The availability of high-quality educational and vocational training programs to increase employment prospects and decrease economic strain was mentioned by four of the ten respondents. Allocating resources to education may help relieve the root reasons of criminal behavior, since there is a link between educational performance and lower crime rates. The other three aim to make vocational training and high-quality education more accessible in order to lessen financial strain and increase employment prospects. Allocating resources to education may help relieve the root reasons of criminal behavior, since there is a link between educational performance and lower crime rates. Thirdly, in order to improve economic conditions and increase employment prospects, it is necessary to make high-quality educational and vocational training programs more widely available. Given the link between higher levels of education and lower crime rates, it stands to reason that investing in education might help address the root reasons of criminal behavior. There is broad agreement on the importance of

education as a preventative intervention, as shown by the strategy's repeated citations in the table.

Discussion

The qualitative insights obtained from interviews reveals a multifaceted understanding of the drivers behind homicide and sexual assault, highlighting the intricate interplay between psychological traits, socioeconomic factors, and motivational influences. Perpetrators often exhibit psychological profiles characterized by features such as Antisocial Personality Disorder (ASPD) and narcissism. People diagnosed with Antisocial Personality Disorder (ASPD) often exhibit remorseless manipulative and exploitative actions, which closely corresponds with the commission of violent criminal crimes. Similarly, criminal activity may be a way for narcissistic people to exert dominance or fulfil their own demands; these people often exhibit characteristics like an exaggerated perception of self-importance and a lack of care for the emotions of others. The correlation between drug addiction and criminal activity adds complexity to the profile, as poor decision-making and heightened aggressiveness resulting from

substance usage may result in acts of violence. These results highlight the need of focused psychological treatments and drug addiction treatment to tackle these particular characteristics and diminish the likelihood of engaging in violent acts.

Socioeconomic considerations have an important influence in shaping criminal conduct. Lower levels of education are closely associated with greater crime rates, since low educational success might restrict career possibilities and income opportunities, thus leading to criminal behavior. Unemployment and economic insecurity may lead to sentiments of frustration and despair, which may raise the chance of committing violent acts. Additionally, juvenile offenders are more prone to commit crimes if they are exposed to criminal behavior at a young age or do not have positive role models in their lives. These findings emphasize the necessity of addressing socioeconomic inequalities via increased educational opportunities, career training programs, and family support measures in order to reduce the risk variables linked with criminal conduct.

Criminal actions such as murder and sexual assault are motivated by wants for power and dominance, financial gain, and responses to psychological suffering. Perpetrators often aim to impose dominance over their victims, implying that preventative measures should prioritize healthy relationships and consent education to address power imbalances. High levels of psychological distress or mental illness may also drive criminal conduct, emphasizing the need of improved mental health services and early intervention initiatives. Financial incentives and drug addiction are powerful motivators, implying that economic assistance programs, career training, and substance abuse treatment should all be part of preventative initiatives. By addressing these motivating motivations, we may create more effective methods of reducing violent crimes.

Overall, the findings from the qualitative data highlight the significance of a holistic strategy to murder and sexual assault prevention. Addressing psychological features, socioeconomic circumstances, and motivational influences via targeted treatments and support networks may help decrease the occurrence of severe crimes and build safer communities.

Conclusion

The research on understanding the drivers of homicide and sexual assault reveals the causes of homicide and sexual assault are intricately linked to psychological characteristics, socioeconomic factors, and motivational influences. Violent behaviors are frequently associated with psychological profiles of perpetrators, which frequently feature disorders such as Antisocial Personality Disorder and traits like narcissism. The probability of illicit behavior is further exacerbated by socioeconomic factors, such as unemployment, familial instability, and lower levels of education. The necessity of comprehensive prevention strategies is underscored by motivational drivers such as the desire for power, financial gain, and psychological distress. Enhanced mental health services, substance abuse treatment, economic support, and educational opportunities should be included in effective measures. By addressing these multifaceted issues holistically, we can create more targeted and effective strategies to reduce the prevalence of violent crimes and promote safer communities. In conclusion, the study calls for a comprehensive method to stopping murder

and sexual attack. Through tailored programs and support systems that focus on psychological traits, social situations, and driving factors, it is possible to lower the number of these serious crimes that happen. Using all-around plans that include mental health services, help with school and work, and involvement in the community can help make neighbourhoods safer and reduce the number of violent crimes that happen.

References

1. Costa AF, Giachrisis HC, Christie H, Denderen VM, Halligan S. Psychological interventions for individuals bereaved by homicide: A systematic review. *Trauma Violence Abuse*. 2021;22(4):793-803. DOI: 10.1177/1524838019893997.
2. Andersson P. Countertransference and therapeutic holding: Working with a perpetrator of domestic violence. *Psychodynamic Practice*. 2022;28(3):275-295. DOI: 10.1080/14753634.2022.2047101.
3. Beauregard E, Chopin J. Interactions between offender and crime characteristics leading to a lethal outcome in cases of sexually-motivated abductions. *Sexual Abuse*. 2023;10790632231210536.
4. Beech A, Fisher D, Ward T. Sexual murderers' implicit theories. *Journal of Interpersonal Violence*. 2005;20(12):1366-1389. DOI: 10.1177/0886260505278712.
5. Behera C, Sikary AK. Homicide by multiple fatal methods: A study from South Delhi, India. *Journal of Interpersonal Violence*. 2021;36(15-16):7855-7865. DOI: 10.1177/0886260519840401.
6. Carlsson L, Lysell H, Enander V, Örmon K, Lövestad S, Krantz G. Socio-demographic and psychosocial characteristics of male and female perpetrators in intimate partner homicide: A case-control study from Region Västra Götaland, Sweden. *PLOS One*. 2021;16(8 August):1-15. DOI: 10.1371/journal.pone.0256064.
7. Chan HC. *Understanding sexual homicide offenders: An integrated approach*. London, England: Palgrave Macmillan.
8. Chan HC, Heide KM, Beauregard E. Male and female single-victim sexual homicide offenders: Distinguishing the types of weapons used in killing their victims. *Sexual Abuse*. 2019;31(2):127-150.
9. Chopin J, Beauregard E. Sexual homicide: A criminological perspective. *Current Psychiatry Reports*. 2019;21(12):1-9.
10. Chopin J, Beauregard E. The unusual victim: Understanding the specific crime processes and motivations for elderly sexual homicide. *Journal of Forensic Sciences*. 2020;65(2):535-543.
11. Chopin J, Beauregard E. Sexual abuse of elderly victims investigated by the police: From motives to crime characteristics. *Journal of Interpersonal Violence*. 2021;36(13-14):6722-6744.
12. Emma R, Emma G, Mathieu G, Gregory M. Characteristics of homicide-suicide offenders. *Aggression and Violent Behavior*. 2020;55:101490.
13. Salfati CG, Taylor P. Differentiating sexual violence: A comparison of sexual homicide and rape. *Psychology Crime Law*. 2006;12(2):107-125. DOI: 10.1080/10683160500036871.

14. Framis GSA, Ramirez PM, Alvarez GJL, Castro SJE. Multiple-perpetrator and solo-offender sexual assaults between strangers: Differences and predictive variables. *Sexual Abuse*. 2023;35(4):465-487.
15. Graham LM, Macy RJ, Rizo CF, Martin SL. Explanatory theories of intimate partner homicide perpetration: A systematic review. *Trauma Violence Abuse*. 2022;23(2):408-427.
16. Higgs T, Carter AJ, Stefanska EB, Glorney E. Toward identification of the sexual killer: A comparison of sexual killers engaging in post-mortem sexual interference and no homicide sexual aggressors. *Sexual Abuse*. 2017;29(5):479-499. DOI: 10.1177/1079063215609935.
17. Karlsson LC, Malén T, Kaakinen JK, Antfolk J. The effect of sex and perpetrator-victim relationship on perceptions of domestic homicide. *Journal of Interpersonal Violence*. 2021;36(7-8):3309-3330.
18. Khan S, Greene J, Mellins CA, Hirsch JS. The social organization of sexual assault. *Annual Review of Criminology*. 2020;3(1):139-163.
19. Krafft Ebing RV. *Psychopathia sexualis: Eine klinisch-forensische studie*. Stuttgart, Germany: Ferdinand Enke.
20. Matias A, Soeiro C. Extreme forms of violence (homicide) and victim-perpetrator dynamics: A focus on the context of family. In: *Handbook of Anger, Aggression, and Violence*. Springer; 2023. p. 539-558.
21. Meloy JR. The nature and dynamics of sexual homicide: An integrative review. *Aggression Violent Behavior*. 2000;5(1):1-22. DOI: 10.1016/S1359-1789(99)00006-3.
22. Money J. Forensic sexology: Paraphilic serial rape (biastophilia) and lust murder (erotophonophilia). *American Journal of Psychotherapy*. 1990;44(1):26-36. DOI:1990-16992-001.
23. Myers WC. *Juvenile sexual homicide*. London, England: Academic Press.
24. Paquette S, Ha O, Chopin J, Beauregard E, McCuish E. Offending patterns in cases of sexual violence committed by multiple perpetrators. *Victims & Offenders*. 2024;19(5):778-798.
25. Ploeg OHJ, Grace RC, Cording JR. Sexual homicide: A descriptive analysis of demographics, behaviour, and body disposal in New Zealand. *Journal of Sexual Aggression*; c2024, p. 1-17. DOI: 10.1080/13552600.2024.2374084.
26. Porter S, Woodworth M, Earle J, Drugge J, Boer D. Characteristics of sexual homicides committed by psychopathic and nonpsychopathic offenders. *Law Human Behavior*. 2003;27(4):459-470. DOI: 10.1023/A:1025461421791.
27. Rouchy E, Germanaud E, Garcia M, Michel G. Characteristics of homicide-suicide offenders: A systematic review. *Aggression Violent Behavior*. 2020;55:101490.
28. Schlesinger L. *Sexual murder: Catathymic and compulsive homicides*. Boca Raton, FL: CRC Press; c1988.
29. Skott S, Beauregard E, Darjee R, Martineau M, The MM. The consistency of sexual homicide characteristics and typologies across countries: A comparison of Canadian and Scottish sexual homicides. *Journal of Sexual Aggression*. 2021;27(1):23-37. DOI: 10.1080/13552600.2019.1697831.
30. Stefanska EB, Longpré N, Bloomfield S, Perkins D, Carter AJ. Untangling sexual homicide: A proposal for a new classification of sexually motivated killings. *Journal of Criminal Justice*. 2020;71:101729.
31. Chan EK, Damoiseaux J, Carballo OG, Conrad K, Cruvinel DMW, Francescantonio PL, *et al.* Report of the first international consensus on standardized nomenclature of antinuclear antibody HEp-2 cell patterns 2014-2015. *Frontiers in Immunology*. 2015 Aug 20;6:412.