

## Review Article

# Drugs and Violence: High Risk Behavior

**Norman Miller<sup>1,2\*</sup> and Thersilla Oberbarnschesdit<sup>3</sup>**

<sup>1</sup>Health Advocates PLLC, East Lansing, MI 48823, USA

<sup>2</sup>Medical College of Georgia, Augusta University, Augusta, GA 30912, USA

<sup>3</sup>Department of Psychiatry, University of Pittsburgh Medical Center, Pittsburgh, PA 15213, USA

## Abstract

As time goes on, more and more people are using drugs in dangerous ways. This rising percentage of people abusing drugs is leading to an increase in violent behaviors connected to them. The present article will summarize and present cases of mass violence caused by drugs, displaying the harm they may cause if not regulated properly. A literature search of JSTOR, AJPH, IJERPH, Journal of Addictive Reviews, Journal of Addiction Research and Therapy, Google Scholar, CDC, CNN, New York Times, Detroit News, and ABC News was conducted from February 16, 2023, to November 03, 2024. In 2016, 56.2 million people died worldwide. There are an estimated 10,000 people who are killed each year in the United States as a direct result of drugs. Worldwide, 70 million people were diagnosed with a drug use disorder. In the global general population, 0.3%-0.6% of people are diagnosed with this disorder. 10%-69% of people in prison are diagnosed as well. From 1995 to 2000, 41% of violent crimes committed against college students and 38% of violent crimes committed against non-students were committed by an offender thought to be on drugs. Drugs have a clear connection to mass violence, and further regulation is needed for the benefit of public health and safety.

## Introduction

Over the years, drugs have been highly addictive and highly dangerous. In 2016, reportedly 56.2 million people died worldwide [1]. Drunk driving alone kills about 10,000 people a day [2]. With the addition of other drugs, the number skyrockets. According to Nobel prize-winning economist Milton Friedman, there are an estimated 10,000 people who are killed each year in the United States as a direct result of drugs [3].

Worldwide, 70 million people were diagnosed with a drug use disorder. In the global general population, 0.3%-0.6% of people are diagnosed with this disorder. When prisons are taken into consideration, 10% to 69% of people in prison are diagnosed as well. The prevalence rate per 100,00 people is 353 for opioids, 290 for cannabis, 78 for cocaine, 65 for stimulants, and less than 52 for other drugs [4].

By searching multiple news sources, including the Washington Post, Detroit News, other local news stations, and more, case upon case of instances where marijuana, stimulants such as cocaine, opioids, methamphetamines, and other drugs were involved with a violent act have been found. Searching

databases and scientific journals came up with more research on this gross phenomenon.

## Case presentation of drug-induced violence

On October 6th, 2022, Panya Kamrab went to a daycare in Northeastern Thailand, wielding a gun and a knife. There, he killed 37 people, including 22 children. During his escape from the daycare, he killed 9 more people with his car. After escaping from the daycare, he returned to his home, where he killed his wife, son, and eventually himself. According to the police chief, Kamrab was a former police officer dismissed on drug charges related to methamphetamines [5-8].

On November 13<sup>th</sup>, 2022, four occupants of a home near the University of Idaho were stabbed and killed. Bryan Kohberger was arrested in Monroe County, Pennsylvania, on four counts of first-degree murder and one count of felony burglary. Former friends have stated that Kohberger had been previously addicted to heroin and had used marijuana in the past [9-11]. Prosecutors are seeking the death penalty.

While it has never been proven that Charles Manson himself murdered anyone, his followers did kill under his

## More Information

**\*Corresponding author:** Norman Miller, Health Advocates PLLC, East Lansing, MI 48823, USA, Email: milleradvocates@outlook.com

**Submitted:** July 28, 2025

**Accepted:** August 16, 2025

**Published:** August 18, 2025

**Citation:** Miller N, Oberbarnschesdit T. Drugs and Violence: High Risk Behavior. Arch Psychiatr Ment Health. 2025; 9(1): 001-009. Available from: <https://dx.doi.org/10.29328/journal.apmh.1001057>

**Copyright license:** © 2025 Miller N, et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

**Keywords:** Addiction; Marijuana; Mass violence; Assault; Drugs; Violence





instructions. On August 9th, 1969, four members of Manson's "family" entered the Tate home and brutally murdered Shanon Tate, Roman Polanski, Abigail Folger, Wojciech Frykowski, and Jay Sebring. Charles' family was well known for their use of drugs, including marijuana, Lysergic Acid Diethylamide (LSD), mushrooms, belladonna, and other psychedelics. Many of the members were under the influence of LSD at the time of the murders [12-16].

### Cases of drug-induced violence with a previous history of mental health struggles

Reichard William-Lewis opened fire at a Hampton Inn in Dearborn, Michigan, on October 6th, 2022. This altercation began when staff approached William-Lewis for being loud and disturbing other guests. Soon after, a staff member was shot multiple times and pronounced dead upon arrival at the hospital later that day. Multiple other staff members recount that William-Lewis held them at gunpoint as well. This altercation ended close to 7 hours later when crisis negotiators were able to convince William-Lewis to exit unarmed. Later, the police chief told reporters that the "suspect has a history of mental illness and drug abuse" [17-19].

From the year 1965 to when a Volkswagen bug was found abandoned in 1969, Tony Costa murdered four women. He has been suspected of murdering an additional four women. Costa was a frequent drug user, often using amphetamines, barbiturates, LSD, methedrine, hashish, solacen, nembutal, and marijuana. He lured and killed Patricia Walsh, Mary Ann Wysocki, Susan Perry, and Sydney Monzon over four years. All four women were buried on a piece of land Costa called his "garden," where he grew marijuana. On Costa's account, he was not the one to kill Walsh and Waysocki. Instead, another person was responsible, though many believe this accusation was a result of Costa's brain convincing him that he was not the killer and was an innocent bystander. Costa's first psychiatric exam deemed him to have "schizoid personality." Later, another psychiatrist said he was "a modern-day 'Marquis de Sade'" and a "sexually dangerous man," capable of murder [20-23].

Jordan Neely was killed on May 1st, 2023, by Daniel Penny, who choked him to death in the subway. On the day he died, Neely was reported to have been behaving erratically, yelling at people on the subway and scaring passengers. Penny and two others reacted to these threats and restrained Neely, leading to his death. Neely suffered from a multitude of mental illnesses, including schizophrenia, of which he is self-medicating using K2 [24].

### Cases of violence with drug-seeking behavior present

Stevan Laporta has been indicted on one count of first-degree murder, two counts of first-degree attempted murder, one count of aggravated cruelty to animals, and one count of being a felon in possession of a firearm. According to

documents, Laporta went to an unnamed man's home to use methamphetamines and marijuana. There, Laporta reportedly pulled out a semi-automatic pistol and shot a dog. One male resident asked Laporta to leave the house. He did, but soon returned to shoot that resident, an older male resident, and a fifteen-year-old resident. The first victim survived, the second succumbed to his injuries in the home, and the fifteen-year-old was reportedly in critical condition [25,26].

On May 2nd, 2023, Ray Nichols shot and murdered a man in Jacksonville, Florida, after a drug deal "went wrong". According to witnesses, the victim took a gun from one of his assailants and began waving it around, demanding, "If you don't give me my drugs back, I'm going to shoot you". He then ran before getting shot and dying near a dumpster [27].

### Cases of vehicular death due to intoxication

Adem Nikeziq was indicted on charges of murder / evincing a depraved indifference, and aggravated vehicular homicide, among other charges. January 28<sup>th</sup>, 2023, on Staten Island, Adem Nikeziq reportedly was driving at a high rate of speed while intoxicated with his pregnant girlfriend in the passenger seat. They soon crashed, and Adriana Sylmetaj was ejected from the vehicle, causing her body to collide with a utility pole. Adriana and her unborn baby died as a result of this crash [28].

Pete Filiberto was found speeding on his motorcycle on February 11th, 2023. When cops tried to pull him over, he sped off suddenly. Eventually, he was caught, police noting that he smelled of alcohol after refusing a breathalyzer test. Later at the police station, deputies found cocaine in Filiberto's shoe [29]. Ultimately, he was found guilty of driving while under the influence.

May 7th, 2023, George Alvarez drove through a red light and crashed into a group of people standing at a bus stop in Brownsville, Texas. Alvarez has been previously arrested for a multitude of different crimes, including a DUI. Six people died at the scene of the crash, and two died later at the hospital. Ten other individuals were injured. A toxicology report shows that Alvarez was on cocaine, benzodiazepines, and marijuana at the time of the crash [30].

Each of the presented cases highlights an instance of drug or alcohol related violence. A commonality between many of these cases is seemingly erratic behavior. This may be a result of drug or alcohol induced psychosis. While not every case of drug or alcohol induced violence may be a result of psychosis, the observed erratic behavior of many of these offenders is important to note. More importantly, though, is that each individual within these cases has experienced intoxication. Intoxication impairs an individual's awareness of their surroundings, critical reasoning skills and may cause an individual to be apprehensive. Ultimately, intoxication is likely the reason for the link between drug use and violence.

The present article intends to discuss factors of drug and alcohol use that may lead to this increase in violence.

## Correlation between drug use and violent crime

Unsupervised and unregulated use of drugs has been an ongoing problem in our society. Many drugs have a long list of side effects that can affect a person's everyday function. As an example, methamphetamines, cocaine, heroin, oxycodone, and fentanyl all have similar side effects, which often include aggression, paranoia, anxiety, confusion, and many more [31]. In one study conducted by the U.S. Department of Justice, it was found that of the respondents, 26% who reported using alcohol, cannabis, and cocaine within 12 months also reported committing a violent crime within that same time frame [32]. Continued use of these drugs can cause permanent and serious long-term damage.

In a review by Shaoling Zhong, Rongqin Yu, and Seena Fazel, individuals previously diagnosed with drug use disorders have a 4 to 10-fold higher risk of committing violent acts compared to the general population or people without a drug use disorder. Of the 37 studies in this review, 34 observed an increased risk of violence. Up to 75% of people who have begun addiction treatment, for any number of addictions, report having been violent in the past [33].

In a performance-based skill assessment conducted in 2012, subjects using methamphetamines exhibited more signs of impaired function than subjects who were drug-free. Those with drugs in their systems showed a decline in comprehension, planning, financial abilities, setting up travel arrangements, communication, and managing medications [34].

Other studies have found a reduced crime rate in populations after drug treatment (opioid maintenance treatment, methadone, buprenorphine, and naltrexone) and non-medical treatment (therapy, drug courts). When these interventions occurred within the prison systems, they were effective in reducing recidivism among prisoners when put back into society. These findings suggest that all drug use disorders have a high possibility of violence, but with proper treatment, this can be reversed [4].

In 2004, 17% of state prisoners and 18% of federal inmates stated that they committed offenses to obtain money for drugs. This is an increase from 16% in federal prisoners from 1997 and a decrease from 19% for state prisoners. From 1995 to 2000, 41% of violent crimes committed against college students and 38% of violent crimes committed against non-students were committed by an offender thought to be on drugs. Roughly 2 out of every 5 sexual assaults (and about a quarter of all robberies against college students) were committed by an individual on drugs [35].

## Motor vehicle accidents while intoxicated

While drug use appears to have a clear connection to violent behavior, alcohol is a cause of violence as well. Alcohol is a very addictive substance, one that is very closely related to violence and plays a part in close to half of all violent crimes and sexual assaults, by the perpetrator, victim, or both [32]. According to surveys on drunk and drugged drivers, adults aged 21 to 25 presented a higher percentage of inebriated drivers compared to younger or older drivers.[36] While driving while intoxicated is not legally considered a violent crime, it still has the potential to severely harm or kill both the intoxicated individual and a victim of the accident.

Driving under the influence of alcohol or drugs presents a serious risk to the health of others. It has been shown multiple times, over multiple differing accounts, that an intoxicated person is dangerous. Not only to themselves but to people around them. People under the influence of alcohol have been shown to have problems controlling their anger, making good decisions, and problem-solving, each of which influences how a person may respond to situations [32]. One theory is that alcohol has a myopic effect on a person's attention span, causing them to focus on the present rather than the future. Many people under the influence of alcohol tend to focus on the immediate benefits their actions may have on any given situation rather than considering future consequences [37].

Dr. Pearlson, an internationally recognized researcher in the field of marijuana, stated that the risk of being in a car crash when driving high is doubled compared to that of a sober driver.[38] A survey done in 2021 found that 13.5 million people drove drunk in the past year, and 11.7 million people drove while under the influence of drugs [36]. A study found that 9.7% of cannabis smokers had driven under the influence before, and 50% of those who have used cannabis as a treatment for physical and mental problems have driven while under the influence [39]. In another study, more than 55% of people involved in serious or fatal crashes tested positive for drugs or alcohol. A quarter of people tested positive for weed, nearly a quarter tested positive for alcohol, 11% tested positive for some form of stimulants, and 9% tested positive for opioids [40].

Motor vehicle accidents are the leading cause of death in young adults aged 16-25 in the United States. From 1991 to 2011, drunk driving decreased by 54%. However, there has been an increase in the number of people driving under the influence of marijuana by 48% from 2007 to 2014 [41]. According to the US Centers for Disease Control and Prevention, in the United States, 29 people die in car crashes involving alcohol induced drivers every day.

## Epidemiological data regarding inebriated driving

Currently, it is unknown how many people die from drug-induced crashes daily. A study conducted by the U.S. National



Highway Traffic Safety Administration found that a quarter of serious and fatal accidents involved marijuana, and almost half involved alcohol. The people tested were not just drivers but passengers, bikers, pedestrians, and people on electric scooters [40]. In 32% of the fatal accidents and 18% of the ones involving serious injuries, people tested for drug use were found to have two or more drugs in their systems. In February of 2022, a survey found that more than 40% of people who use marijuana and drink alcohol also report driving under the influence. Driving impaired causes more than 10,000 deaths per year, and many of those deaths are preventable [40].

The National Highway for Transportation Safety Administration has reported that in 25% of all motor vehicle crash fatalities, the driver responsible for the crash had a blood alcohol concentration of 1/8th of the legal limit. In 21-year-old drivers, the percentage was 39%. Previously convicted drivers were responsible for 7.2% of crashes involving alcohol use [39]. When a person is intoxicated beyond the legal limit, there is a 10 to 15 times increase in the risk of a car crash. As stated before, driving while under the influence of marijuana is approximately 2 times more dangerous than driving drunk, yet when a person's blood alcohol is over the legal limit of 0.08, it becomes much more dangerous to drive drunk [38].

In 2016, 19.7% of drivers under the influence tested positive for some type of opioid [36]. While it is less likely for a person to crash while under the influence of these drugs, the risk is still apparent

## Prevalence of violent crime due to drug and alcohol abuse

In the United States, 32% of all murders involve alcohol in one way or another. In one study completed by Oybek Nazarov and Guohua Li, it was found that 37.5% of homicide victims tested positive for alcohol, 31% tested positive for marijuana, and 11.4% tested positive for both drugs [42].

Of the 56.2 million people who died in 2016 [1], 90,000 of those deaths were a result of domestic violence where alcohol was involved [34]. Every year, about 10 million people are physically abused by their partner [43]. Of that 10 million, 40-60% of all domestic abuse situations involve alcohol or drugs [34].

An in-depth study done on 105 men who killed their partners found that most of them had ongoing disputes with their partners, having subjected them to some type of violence before the killing. A large portion of these men also blamed the homicide on alcohol consumption and drug use [44].

A 1992 survey done by the Bureau of Justice Statistics National Crime Victimization Survey asked victims of violent crimes who reported seeing their attacker if they had noticed their attacker being under the influence of a substance. Of those that could make that determination, 59% percent

reported their attacker was under the influence of alcohol and/or drugs [45].

The correlation between substance abuse and violent behavior has been observed through various studies. One study found that more than 26% of respondents who reported using alcohol, cannabis, and cocaine in 12 months also reported committing a violent crime within the same time frame [46].

Between 25% and 50% of men who commit acts of domestic violence suffer from substance use disorder [47]. Additionally, 80% of child abuse cases involve the use of drugs and alcohol [47].

The World Health Organization (WHO) also considers suicide to be an act of violence. The WHO defines suicide as a form of "self-directed violence" [48]. In a survey conducted by the WHO in 2019, it was found that 63,000 individuals aged 18 or older who reported alcohol use in the past month attempted suicide [48]. Additionally, this same survey found that 80,000 respondents who had attempted suicide in 2019 had used alcohol or illicit drugs in the past year. Research indicates that "alcohol dependence is associated with a suicide risk that is 10 times greater than the suicide risk in the general population, and individuals who abuse illicit drugs by injection are at a suicide risk 14 times higher than the general population" [49].

## Drug overdose deaths

A recent article titled "Trends in Mortality from Poisonings, Firearms, and All Other Injuries by Intent in the US, 1999-2020" discusses the risks of external causes of deaths across America, differing by age, sex, race, and ethnicity. Through the research conducted, it was found that in the observed twenty-year period, death by poisoning (including drug overdoses) was the leading cause of death in people over the age of twenty [50].

The study limited its data to include adults over the age of twenty and categorized external causes of death into three categories: poisonings (including drug overdoses), firearms, and all other injuries (deaths that did not involve firearms or poisonings). Then, deaths were further categorized by intent: unintentional, homicide, suicide, and undetermined [50].

Whether intentional or unintentional, drug overdose deaths cause harm to oneself. Additionally, individuals who provide these harmful drugs may be prosecuted. Drug-induced homicide is a criminal violent behavior that results in serious harm to (or even death of) an individual.

Previous research showed that drug overdose deaths disproportionately affected white people, though more recent research suggests differently. This study shows that there was an increase in American Indian and Alaska Native people who died from poisoning [50]. The leading cause of death





during this period, under the category of poisoning, was drug overdose. From 2013 to 2020, deaths caused by drug overdose rose rapidly at an annual rate of 7% [50].

From 1999 to 2020, there were 3,813,894 deaths due to external causes in the US. Deaths due to external causes increased from 65.6 (per 100,000 population) in 1999 to 103.5 in 2020. The largest increase in death rates was for poisoning (31.18 per 100,000 population), followed by firearm injuries (4.18 per 100,000 population) and all other injuries (2.57 per 100,000 population) [50].

## Drug effects and dangerous behavior

Drug use produces a various number of adverse effects, some of which may lead to observed violent behavior. Marijuana, as an example, can harm learning, thinking, and memory development and has been linked to mental health issues, including psychosis. Marijuana is not the only drug that can induce psychosis. Rather, cocaine, amphetamines, methamphetamines, psilocybin, MDMA (ecstasy), and other hallucinogenic drugs can result in the same effect. During a psychotic episode, individuals may act erratically and in potentially violent ways. Some causes of aggression or aggressive behaviors may include fear, misinterpretation of the intent of others, and overstimulation, all of which may result from drug abuse.

While not every case of drug use will result in psychosis, intoxication still occurs. Cannabis intoxication effects, as an example, include euphoria, perception alterations such as time and spatial distortion, intensification of ordinary sensory experiences, and motor impairment [51]. These effects may lead an individual to become anxious or apprehensive, potentially resulting in violent behavior toward themselves or others.

A common misconception surrounding drug use is that individuals “self-medicate” with drugs in an attempt to curb their existing symptoms. However, drug use has been shown to exacerbate existing mental health conditions. Although drug use may appear to temporarily “help” with symptoms of mental disorders, these drugs will ultimately worsen the symptoms over time. This attempted self-medication may often result in a substance use disorder, which can result in additional mental health issues. Individuals using these drugs will ultimately seek the effects of the drug itself, resulting in abuse and addiction.

## Access increases risk of violence

It is necessary to ask how drug-induced violence can be minimized or prevented altogether. A promising solution would be to minimize access to these drugs. Using marijuana as an example, it is clear that public opinions surrounding drug use have shifted. Several cities and states within the United States have legalized or decriminalized marijuana despite

the drug remaining federally illegal. Currently, marijuana is categorized as a Schedule I drug under the Controlled Substances Act, meaning that it has no accepted medical use as well as a high potential for abuse. Despite this, many people are pushing for marijuana to be rescheduled as a Schedule III drug. In comparison to a Schedule I drug, Schedule III drugs are described as having an accepted medical use and a lower relative potential for abuse. This Schedule III status would make it much easier to obtain marijuana.

One study found that individuals with a diagnosed drug use disorder have a 4 to 10-fold higher risk of perpetrating violence in comparison to the general population or individuals without drug use disorders. Within this study, all the examined categories of drug use disorders (including cannabis, hallucinogens, stimulants, opioids, and sedatives) were associated with elevated risk of violence [52]. It has been consistently shown that drug abuse is correlated with violence, yet drug use is not being monitored for public health benefits. Rather, there is a public push for the legalization of these drugs.

Marijuana is the most consumed illicit drug in the world. According to the United Nations Office on Drugs and Crime, over 192 million users (aged 15-64) worldwide regularly consume marijuana. The lifetime use of this group is 20% of the world population [53]. The United States and Canada have the highest number of CUDs (age-standardized) in the world [53]. Additionally, a 50-year study in the United Kingdom on adult patients found that continued cannabis use is associated with a 7-fold greater odds for subsequent violent crimes. The authors of the study suggest that marijuana use causes impairments in neurological circuits controlling behavior that makes a user prone to violent behavior [54]. As drugs are linked with potential violent behavior, it is reasonable to assume that increasing access to drugs is potentially dangerous to public health.

## Psychedelics

Another drug that is seeing a large change in public perception is psychedelics. Psychedelic drugs are typically understood to be 5-HT<sub>2</sub> agonists and include drugs such as psilocybin, lysergic acid diethylamide (LSD), methylenedioxymethamphetamine (MDMA), and others. Psychedelics can alter an individual's mood, thoughts, and perceptions of reality. Additionally, individuals who use psychedelics report feeling strong emotions ranging from intense happiness and a feeling of connectedness to fear, anxiety, and confusion. A reported effect of psychedelic use also includes experiencing intense or distorted visions or sensations.

Recently, Lykos (a public benefit corporation that was formed by MAPS) submitted data from its studies to the FDA. They asserted that MDMA (also known as ecstasy or Molly), in combination with treatment, could treat post-traumatic



stress disorder. The FDA ultimately declined approval and requested that another clinical trial be provided to support the safety and efficacy of the treatment. An advisory committee established by the FDA voiced concerns regarding the validity of the studies. They were concerned that due to MDMA's mind-altering effects, it would be difficult, if not impossible, to ensure a true double-blind study. The final vote of the panel was 10-1, and they explained that the submitted data did not adequately show that the proposed therapies' benefits outweighed the risks of the drug.

## Marijuana

Drug access may lead to an increase in drug use, which in turn may increase the risk of violent behavior. After marijuana was legalized in the state of Washington, the prevalence of marijuana use among 8<sup>th</sup> and 10<sup>th</sup>-graders increased compared to pre-legalization levels [55]. Additionally, research has shown that the risk of suicidal thoughts and behaviors among adolescents increases with the frequency of use [55].

While marijuana is legally available for adults in some states, there are still concerns that the increased availability of the drug may affect adolescents. Adolescent use may increase due to not only increased availability, but also greater social acceptance [56]. The Columbia University Mailman School of Public Health and Oregon State University together conducted a study examining the prevalence of marijuana use by young adults [57]. Based on national data, the study concluded that young adults more frequently used the drug in states where recreational marijuana has been legalized. However, after state legalization, young adults were also more likely to meet the criteria for cannabis use disorder [57]. This means that these young adults likely continued to use the drug despite adverse effects.

Ultimately, the best way to limit drug-induced violence is to reduce access to these drugs. However, there are other methods of prevention that currently exist. The Drug Enforcement Administration (DEA) is primarily responsible for enforcing controlled substance laws and regulations. Additionally, police officers are responsible for preventing distinguishable threats to public safety, including threats that result from drug use. However, due to a public push for drug decriminalization, police prevention may not have as active a role in drug enforcement as previously seen.

## Prevention and enforcement

Despite public opinion of law enforcement, tougher drug enforcement has yielded significant societal benefits as an effective strategy for addressing drug abuse [58]. "From 1986 to 1992, a 13-percent increase in law enforcement personnel yielded approximately a 39-percent increase in violent crime arrests and a 110-percent increase in heroin/cocaine trafficking arrests" [58]. Crime and violent behavior have decreased as drug incarceration rates rise.

## Oregon drug decriminalization effects

Despite this, many states are advocating for drug decriminalization. Oregon, as an example, passed Measure 110 in 2020. This ballot measure reclassified possession of drugs (including heroin, methamphetamine, PCP, LSD, and oxycodone) as a Class E civil violation. Individuals charged with a Class E civil violation may receive a fine but will not be subject to imprisonment. Drug decriminalization, however, does not protect public health and prevent violent behavior. Rather, drug decriminalization has negative effects on health, such as unintentional drug overdose. Using the synthetic control method (which is used to assess the impact of large-scale interventions), it was found that when Oregon decriminalized small amounts of drugs in February 2021, 182 additional unintentional drug overdose deaths occurred [59]. This data reportedly represents a 23% increase over the number of predicted unintentional overdose deaths if Oregon had no decriminalized drugs [59].

The Board of Commissioners of Douglas County voiced their concerns along with the District Attorney and County Sheriff. These parties sent a letter to the legislature in October 2023, urging them to repeal Measure 110. In this letter, they stated that "the decriminalization of certain drug possessions has compromised public safety by reducing the deterrent effect of law enforcement efforts" [59]. According to the FBI's Uniform Crime Reporting Program, regardless in violent crime reportedly decreasing by 4.5%, the rate of violent crime in Oregon increased by 17.3% between 2020 and 2022 [60].

## British Columbia drug decriminalization test and other areas

The United States is far from the only country to decriminalize drugs. Canada (British Columbia specifically) currently has a decriminalization test set to continue until 2026 [61]. Within British Columbia, an estimated 225,000 individuals are using illegal drugs. British Columbia is currently the only province in Canada that has decriminalized the possession of small amounts (2.5 grams) of hard drugs.

Opponents of this decriminalization test fear that British Columbia will experience similar results to Oregon. Despite a 76% drop in drug possession charges within the first year of the policy, the death rate has continued to rise. Since the implementation of this policy, opioid-related toxicity deaths have increased by nearly 5% [61].

Oregon and British Columbia are far from the only areas looking into drug decriminalization or legalization. Alaska, Arizona, California, Colorado, Connecticut, Delaware, District of Columbia, Hawaii, Illinois, Louisiana, Maine, Michigan, and more have legalized and decriminalized marijuana. Using Washington as an example, many states are experiencing similar drug trends to Oregon after decriminalizing various drugs. In Washington, fentanyl has increased in prominence

from less than 9% of crime lab submissions in 2020 to 58% in 2023 [62,63]. A new bill in response to the Washington State v. Blake decision has changed possession laws to a more serious gross misdemeanor. However, due to the Blake decision, far fewer drug cases are being prosecuted therefore resulting in fewer submissions to the state crime lab. This may cause difficulties when predicting drug trends.

## Conclusion

It has been shown that many people have died due to drugs, both directly and indirectly. Drug use is extremely dangerous and may often result in violent and high-risk behavior that endangers the public. Access to drugs is becoming permissive and pervasive due to decriminalization and legalization. However, the legality of drugs does not reduce the level or amount of violence that occurs from drug use. Additionally, the lack of information regarding the negative effects of drug use must be addressed. People must be informed of the risks of drug use, such as how drug use may cause disabilities and mental disorders. While the present article discusses the link between drug use and violence, further information is needed on preventative factors to maintain public health.

## Future direction

The present article reviews cases and does not present original research; therefore, a limitation of this article is that inferences made do not include information that may be found from original research. Future studies may consider examining the link between drug use and violent behavior further, specifically focusing on methods to minimize the risk of violent and dangerous behavior. Additionally, future studies may consider focusing on the increase of violent tendencies a person has after drugs are introduced, especially focusing on whether the individual displayed violent or nonviolent behaviors before the drug use. Furthermore, future studies should consider exploring the underlying factors that may contribute to drug use and resulting violent behavior.

Further studies must be conducted to minimize risk to public health and ensure safety. As established previously, access, enforcement, and prevention are necessary aspects to consider to protect public health. Additionally, the public should be aware of the negative effects of drug abuse. Future actions need to be taken to prevent drug-induced violent behaviors.

## References

1. Births and deaths per year. Our World in Data [Internet]. [cited 2023 Jul 6]. Available from: <https://ourworldindata.org/grapher/births-and-deaths-projected-to-2100>
2. Rivelli E. 2022 drunk driving statistics. Bankrate [Internet]. [cited 2023 Jul 6]. (Assuming "2022" as the year of the statistics, though the actual publication year isn't specified.) Available from: <https://www.bankrate.com/insurance/car/drunk-driving/>
3. Gray J. Why Our Drug Laws Have Failed: A Judicial Indictment Of War On Drugs. Philadelphia: Temple University Press; 2001.
4. Zhong S, Yu R, Fazel S. Drug use disorders and violence: associations with individual drug categories. *Epidemiologic Reviews*. 2020;42(1):103–116. Available from: <https://doi.org/10.1093/epirev/mxaa006>
5. Thailand's deadliest rampage ever: At least 36 killed in attack that began at child care center. USA TODAY [Internet]. [cited 2023 Jul 6]. Available from: <https://www.usatoday.com/story/news/world/2022/10/06/thailand-shooting-more-than-30-killed-childcare-center-attack/8194299001/>
6. Tan R, Timsit A, Simon MF. Thai ex-officer attacks day-care center, killing dozens, including 24 children. *Washington Post*. 2022 Oct 7 [cited 2023 Jul 6]. Available from: <https://www.washingtonpost.com/world/2022/10/06/thailand-daycare-children-attack/>
7. ABC News. Dozens dead after mass shooting at child care center in Thailand, police say. ABC News [Internet]. [cited 2023 Jul 6]. Available from: <https://abcnews.go.com/International/dozens-dead-mass-shooting-child-care-center-thailand/story?id=91092225>
8. Satienlerk V, Perawongmetha A. Thailand massacre: Ex-cop kills 24 children in knife and gun rampage. *Reuters*. 2022 Oct 6 [cited 2023 Jul 6]. Available from: <https://www.reuters.com/world/asia-pacific/least-20-people-killed-mass-shooting-thailand-police-2022-10-06/>
9. Bryan Kohberger completed high school online for reasons that remain unclear: report. *Inside Edition*. 2023 Feb 24 [cited 2023 Jul 6].
  - Idaho murders: Bryan Kohberger's former friend speaks out on social behavior, alleged drug use. *FOX News*; FOX 32 Chicago. 2023 Jan 8 [Text.Article] [cited 2023 Jul 6].
  - Who is Bryan Kohberger? *The Independent*. 2023 May 22 [cited 2023 Jul 6].
  - Paul Watkins testimony. *CharlesManson.com* [Internet]. [cited 2023 Aug 10]. Available from: <https://www.charlesmanson.com/testimony/paul-watkins/>
10. Charles Manson and the Manson Family. *Crime Museum* [Internet]. [cited 2023 Jul 6]. Available from: <https://www.crimemuseum.org/crime-library/famous-murders/charles-manson-and-the-manson-family/>
11. Post | The Crime Sheet. *The Crime Sheet* [Internet]. [cited 2023 Jul 6]. Available from: <https://www.thecrimesheet.com/post/charles-manson-s-coercion-cocktail-recipe>
12. Toxicology. Charles Manson Case Study [Internet]. [cited 2023 Jul 6]. Available from: <http://charlesmansoncasestudy.weebly.com/toxicology.html>
13. Why Did the Manson Family Kill Sharon Tate? Here's the Story Charles Manson Told the Last Man Who Interviewed Him. *Time*. 2019 Jul 26 [cited 2023 Jul 6]. Available from: <https://time.com/5633973/last-manson-interview/>
14. Dearborn police: Hampton Inn clerk killed by gunman with mental illness, history of drug abuse. *FOX 2 Detroit* [Internet]. 2022 Oct 6 [cited 2023 Jul 6]. Available from: <https://www.fox2detroit.com/news/dearborn-police-hampton-inn-clerk-killed-by-gunman-with-mental-illness-history-of-drug-abuse>
15. The Dearborn Hampton Inn shooting suspect was charged on Sunday. *FOX 2 Detroit* [Internet]. 2022 Oct 9 [cited 2023 Jul 6]. Available from: <https://www.fox2detroit.com/news/dearborn-hampton-inn-shooting-suspect-charged-sunday>
16. Man, 34, charged with murder in Michigan hotel shooting that left worker dead. *NBC News*. 2022 Oct 10 [cited 2023 Jul 6]. Available from: <https://www.nbcnews.com/news/us-news/man-34-charged-murder-michigan-hotel-shooting-left-worker-dead-rcna51420>
17. Bryan Kohberger completed high school online for reasons that remain unclear: report. *Inside Edition*. 2023 Feb 24 [cited 2023 Jul 6]. Available from: <https://www.insideedition.com/bryan-kohberger-high-school-mental-health-discipline-heroin>
18. Idaho murders: Bryan Kohberger's former friend speaks out on social



- behavior, alleged drug use. FOX 32 Chicago. 2023 Jan 8 [cited 2023 Jul 6]. Available from: <https://www.fox32chicago.com/news/idaho-murders-bryan-kohbergers-former-friend-speaks-out-on-social-behavior-alleged-drug-use>
19. Who is Bryan Kohberger? The criminology graduate being arraigned over the Idaho college murders. The Independent. 2023 May 22 [cited 2023 Jul 6]. Available from: <https://www.independent.co.uk/news/world/americas/crime/bryan-kohberger-update-idaho-murders-b2343182.html>
  20. Antone Charles Costa | Murderpedia, the encyclopedia of murderers. [Internet]. [cited 2023 Jul 6]. Available from: <https://murderpedia.org/male/C/c/costa-antone.htm>
    - The horrifying crimes of Tony Costa, the Cape Cod Killer who crossed paths with Kurt Vonnegut. [Internet]. 2020 Jul 16 [cited 2023 Jul 6]. Available from: <https://the-line-up.com/tony-costa-cape-cod-killer>
    - Morbid: Tony Costa, The Cape Cod Vampire Part 1 on Apple Podcasts. [Internet]. [cited 2023 Jul 6]. Available from: <https://podcasts.apple.com/us/podcast/morbid-a-true-crime-podcast/id1379959217?i=100047362654>
    - Subway chokehold victim Jordan Neely was 'self-medicating' with K2 before his death. [Internet]. [cited 2023 Aug 1]. Available from: <https://www.dailymail.co.uk/news/article-12047035/Subway-chokehold-victim-Jordan-Neely-self-medicating-K2-death.html>
    - Man took drugs, killed dog before deadly Spring Hill shooting spree: Deputies. WFLA. 2023 May 19 [cited 2023 Jul 6]. Available from: <https://www.wfla.com/news/herando-county/man-took-drugs-killed-dog-before-deadly-spring-hill-shooting-sprees-deputies/>
    - A Pasco man said he was 'God,' 'angel of death' before shooting 3 people, dog, deputies say. Tampa Bay Times. [Internet]. [cited 2023 Jul 6]. Available from: <https://www.tampabay.com/news/crime/2023/05/19/pasco-deputies-shooting-herando-crime-god-angel-death/>
    - Avancier E. Witnesses suspect a drug deal led to the shooting of a man in downtown Jacksonville. WJXT. 2023 May 5 [cited 2023 Jul 6]. Available from: <https://www.news4jax.com/news/local/2023/05/05/witnesses-suspect-a-drug-deal-led-to-the-shooting-of-a-man-in-downtown-jacksonville/>
    - A pregnant woman was thrown from a car to her death when her drunk boyfriend hit a wall: NYPD. [Internet]. [cited 2023 Jul 6]. Available from: <https://nypost.com/2023/01/29/pregnant-woman-killed-in-nyc-crash-alleged-drunk-driver-charged/>
  21. Archive VA, Feed G, author R. Florida politician Pete Filiberto was busted with 10 grams of cocaine in a sock. New York Post. 2023 Feb 13 [cited 2023 Jul 6]. Available from: <https://nypost.com/2023/02/13/florida-politician-pete-filiberto-busted-with-10-grams-of-cocaine-in-sock/>
  22. Sandoval E. What to know about the Brownsville crash that killed 8 migrants. The New York Times. 2023 May 21 [cited 2023 Jul 6]. Available from: <https://www.nytimes.com/article/brownsville-texas-car-crash.html>
  23. Murderpedia. Murderpedia [Internet]. [cited 2023 Jul 6]. Available from: <https://murderpedia.org/male/C/c/costa-antone-charles.htm>
  24. The horrifying crimes of Tony Costa, the Cape Cod killer who crossed paths with Kurt Vonnegut. The Line-Up [Internet]. [cited 2023 Jul 6]. Available from: <https://the-line-up.com/tony-costa-cape-cod-serial-killer>
  25. Tony Costa, The Cape Cod Vampire Part 1. Apple Podcasts [Internet]. [cited 2023 Jul 6]. Available from: <https://podcasts.apple.com/gb/podcast/tony-costa-the-cape-cod-vampire-part-1/id1379959217?i=1000502829864>
  26. Tony Costa, The Cape Cod Vampire Part 2. Apple Podcasts [Internet]. [cited 2023 Jul 6]. Available from: <https://podcasts.apple.com/au/podcast/tony-costa-the-cape-cod-vampire-part-2/id1379959217?i=1000503038920>
  27. Rodriguez N. Man took drugs, killed dog before deadly Spring Hill shooting spree: deputies. WFLA [Internet]. [cited 2023 Jul 6]. Available from: <https://www.wfla.com/news/pasco-county/man-took-drugs-killed-dog-before-deadly-spring-hill-shooting-sprees-deputies/>
  28. Pasco man said he was 'God,' 'angel of death' before shooting 3 people, dog, deputies say. Tampa Bay Times [Internet]. 2023 May 23 [cited 2023 Jul 6]. Available from: <https://www.tampabay.com/news/crime/2023/05/23/pasco-man-said-he-was-god-angel-death-before-shooting-3-people-dog-deputies-say/>
  29. Witnesses suspect drug deal led to shooting of man in downtown Jacksonville. News4Jax [Internet]. 2023 May 5 [cited 2023 Jul 6]. Available from: <https://www.news4jax.com/news/local/2023/05/05/witnesses-suspect-awry-drug-deal-led-to-shooting-of-man-in-downtown-jacksonville/>
  30. Subway chokehold victim Jordan Neely was 'self-medicating' with K2 before his death, uncle claims, as ex-Marine Daniel Penny issues statement and 'case heads to grand jury'. Daily Mail. [Internet]. [cited 2023 Jul 6]. Available from: <https://www.dailymail.co.uk/news/article-12054043/Subway-chokehold-victim-Jordan-Neely-self-medicating-K2-death.html>
  31. 10 Drugs That Promote Violence | Red Dot Alert. Red Dot Alert [Internet]. [cited 2023 Jul 6]. Available from: <https://reddotalert.com/10-drugs-that-promote-violence/>
  32. How Drugs & Alcohol Can Fuel Violent Behaviors. American Addiction Centers [Internet]. [cited 2023 Jul 6]. Available from: <https://americanaddictioncenters.org/rehab-guide/addiction-and-violence>
  33. Ilgen MP, Kleinberg FMSW. The link between substance abuse, violence, and suicide. Psychiatric Times. 2011 [cited 2023 Jul 6];28. Available from: <https://www.psychiatrictimes.com/view/link-between-substance-abuse-violence-and-suicide>
  34. Henry BL, Minassian A, Perry W. Effect of methamphetamine dependence on everyday functional ability. Addictive Behaviors. 2010;35(6):593–598. Available from: <https://doi.org/10.1016/j.addbeh.2010.01.013>
  35. Drug Use and Crime. Bureau of Justice Statistics [Internet]. [cited 2023 Jul 6]. Available from: <https://bjs.ojp.gov/drugs-and-crime-facts/drug-use-and-crime>
  36. Drugged Driving DrugFacts. National Institute on Drug Abuse. 2019 Dec 31 [cited 2023 Jul 6]. Available from: <https://nida.nih.gov/publications/drugfacts/drugged-driving>
  37. Bushman BJ, Giancola PR, Parrott DJ, Roth RM. Failure to consider future consequences increases the effects of alcohol on aggression. Journal of Experimental Social Psychology. 2012;48(2):591–595. Available from: <https://doi.org/10.1016/j.jesp.2011.11.013>
  38. Marijuana vs. Alcohol: What's the Difference in Impaired Driving? | Institute of Living | Hartford HealthCare. Institute of Living | Hartford HealthCare [Internet]. [cited 2023 Jul 6]. Available from: <https://instituteofliving.org/health-wellness/news/newsroom-detail?articleId=38108&publicId=472>
  39. Sewell RA, Poling J, Sofuoglu M. The effect of cannabis compared with alcohol on driving. The American Journal on Addictions. 2009;18(3):185–193. Available from: <https://doi.org/10.1080/10550490902786934>
  40. More than half of the people involved in road accidents had drugs or alcohol in their system, a study says | CNN. CNN [Internet]. [cited 2023 Jul 6]. Available from: <https://www.cnn.com/2022/12/14/health/drug-alcohol-driving/index.html>
  41. Driving Under the Influence of Alcohol, Marijuana, and Alcohol and Marijuana Combined Among Persons Aged 16–25 Years—United States, 2002–2014. MMWR Morbidity and Mortality Weekly Report [Internet]. [cited 2023 Jul 6]. Available from: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6448a1.htm>
  42. Nazarov O, Li G. Trends in alcohol and marijuana detected in homicide victims in 9 US states: 2004–2016. Inj Epidemiol. 2020;7(1):2. Available from: <https://doi.org/10.1186/s40621-019-0229-4>



43. NCADV | National Coalition Against Domestic Violence. NCADV [Internet]. [cited 2023 Jul 6]. Available from: <https://ncadv.org/STATISTICS>
44. Mackintosh T, Swann S. 2019 domestic violence killings reach five-year high. BBC News [Internet]. 2019 Aug 29 [cited 2023 Jul 6]. Available from: <https://www.bbc.com/news/uk-49459674>
45. Global Study on Homicide: Gender-related killing of women and girls, 2018. Asian Pacific Institute on Gender-Based Violence [Internet]. 2018 Dec 5 [cited 2023 Jul 6]. Available from: <https://www.api-gbv.org/resources/global-study-homicide-gender-related-killing-women-girls-2018/>
46. Intersection of drug use and criminal behavior: results from the National Household Survey on Drug Abuse. Office of Justice Programs [Internet]. [cited 2023 Jul 6]. Available from: <https://www.ojp.gov/ncjrs/virtual-library/abstracts/intersection-drug-use-and-criminal-behavior-results-national>
47. Fact Sheet: Drug-related crime. Bureau of Justice Statistics [Internet]. 1994 [cited 2024 Nov 18]. Available from: <https://bjs.ojp.gov/content/pub/pdf/DRRC.PDF>
48. Substance Abuse and Mental Health Services Administration. SAMHSA [Internet]. 1997 [cited 2024 Nov 18]. Available from: [https://store.samhsa.gov/sites/default/files/SMA12-3390\\_508.pdf](https://store.samhsa.gov/sites/default/files/SMA12-3390_508.pdf)
49. 2020 NSDUH detailed tables. Substance Abuse and Mental Health Services Administration [Internet]. 2022 [cited 2024 Nov 18]. Available from: <https://www.samhsa.gov/data/report/2020-nsduh-detailed-tables>
50. Substance Abuse and Mental Health Services Administration. SAMHSA [Internet]. 2016 [cited 2024 Nov 18]. Available from: <https://store.samhsa.gov/sites/default/files/sma16-4935.pdf>
51. Lawrence WR, Freedman ND, McGee-Avila JK, Berrington de González A, Chen Y, Emerson MA, et al. Trends in mortality from poisonings, firearms, and all other injuries by intent in the US, 1999–2020. JAMA Intern Med. 2023; Available from: <https://doi.org/10.1001/jamainternmed.2023.2509>
52. Turner AR. Marijuana toxicity. U.S. National Library of Medicine [Internet]. 2023 [cited 2024 Nov 18]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK430823/>
53. Zhong S, Yu R, Fazel S. Drug use disorders and violence: Associations with individual drug categories. Epidemiol Rev. 2020;42(1):103–116. Available from: <https://doi.org/10.1093/epirev/mxaa006>
54. Bahji A, Stephenson C. International perspectives on the implications of cannabis legalization: A systematic review and thematic analysis. Int J Environ Res Public Health. 2019;16(17):3095. Available from: <https://doi.org/10.3390/ijerph16173095>
55. Psychology Today Magazine. Psychology Today [Internet]. 2024 Nov [cited 2024 Nov 11]. Available from: <https://www.psychologytoday.com/us/magazine/archive/2024/11>
56. Drug Free America Foundation. Substance use and mental health [Internet]. 2024 [cited 2024 Nov 18]. Available from: <https://www.dfaf.org/substance-use-and-mental-health/>
57. Hopfer C. Implications of marijuana legalization for adolescent substance use. Subst Abus. 2014;35(4):331–335. Available from: <https://doi.org/10.1080/08897077.2014.943386>
58. In legalized states, frequent cannabis use is now more common among some young adults. Columbia University Mailman School of Public Health [Internet]. 2023 [cited 2024 Nov 18]. Available from: <https://www.publichealth.columbia.edu/news/legalized-states-frequent-cannabis-use-now-more-common-among-some-young-adults>
59. Peterson RE. Success in tough drug enforcement. NCJRS Virtual Library [Internet]. 1996 [cited 2024 Nov 18]. Available from: <https://www.ojp.gov/ncjrs/virtual-library/abstracts/success-tough-drug-enforcement>
60. Spencer N. Does decriminalization cause more drug overdose deaths? Evidence from Oregon Measure 110. SSRN Electron J. 2023; J Health Econ. 2023;91:102798. Available from: <https://doi.org/10.1016/j.jhealeco.2023.102798>
61. FBI Crime Data Explorer. Federal Bureau of Investigation [Internet]. 2024 [cited 2024 Nov 18]. Available from: <https://cde.ucr.cjis.gov/LATEST/webapp/#/pages/explorer/crime/crime-trend>
62. Yousif N. Success or failure? Canada's drug decriminalisation test faces scrutiny. BBC News [Internet]. 2024 [cited 2024 Nov 18]. Available from: <https://www.bbc.com/news/world-us-canada-68621012>
63. Alcohol and Drug Abuse Institute. Drug trends across Washington: Crime lab data [Internet]. 2024 [cited 2024 Nov 19]. Available from: [https://ada.i.washington.edu/wadata/stateMOP\\_cases.htm](https://ada.i.washington.edu/wadata/stateMOP_cases.htm)  
Also available from: <https://ourworldindata.org/illegal-drug-use>