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Marijuana Violence and Law

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Abstract

Marijuana is currently a growing risk to the public in the United States. Following expanding public opinion that marijuana provides little risk to health, state and federal legislatures have begun changing laws that will significantly increase accessibility of marijuana. Greater marijuana accessibility, resulting in more use, will lead to increased health risks in all demographic categories across the country. Violence is a well-publicized, prominent risk from the more potent, current marijuana available.

We present cases that are highly popularized storylines in which marijuana led to unnecessary violence, health risks, and, in many cases, both. Through the analysis of these cases, we will identify the adverse effects of marijuana use and the role it played in the tragic outcomes in these and other instances. In the analysis of these cases, we found marijuana as the single most common, correlative variable in otherwise diverse populations and circumstances surrounding the association of violence and marijuana.

Keywords: Marijuana; Bullying behaviour; Aggression; Intoxication; Cannabis use

Cases Reports

Michael Brown robbed a convenience store for a large box of cigarillos to smoke marijuana and assaulted the store clerk. Subsequently, the 18 year old Brown attacked police officer Darren Wilson without provocation, punching him in the face through the window of his police car, and attempting to grab his gun. Wilson shot and killed Brown as he tried to escape in a very agitated, paranoid, confused and aggressive state. Along with the cigarellos, marijuana was found in Brown's system at the time of death [1].

Trayvon Martin was shot and killed by George Zimmerman, a neighborhood watch volunteer. Marijuana was found in Martin's system the night he was shot [2]. He also had been suspended from school for possession of marijuana.

Laquan McDonald slashed a tire and damaged a police car. After ignoring verbal instruction to drop the knife, he was shot sixteen times. McDonald had used marijuana every day since the age of 10 or 11 years old [3].

Deven Guilford was shot and killed by a policeman during a traffic stop after becoming assaultive. He was a known marijuana user as he professed his "love" for marijuana on social media [4].

Freddie Gray fell into a coma while being transported after an arrest for possession of an illegal switchblade. At the time of his death, Gray tested positive for marijuana and heroin. Gray had multiple prior charges for marijuana possession [5].

Lakeisha Holloway drove her car onto a sidewalk on the Las Vegas strip, killing one and injuring over thirty-five others [6,7]. The toxicology exam illustrated that Holloway had marijuana in her system at the time of the vicious attack [8].

Robert Lewis Dear shot three people and injured nine others at a Planned Parenthood Clinic in Colorado Springs, Colorado. He was a marijuana user and illustrated mental health issues [9].

Joseph Jesse Aldridge found his mother dead of natural causes and went on a shooting rampage, killing seven people and himself. In 2008, Aldridge had pled guilty to federal charges of possessing firearms while using marijuana. He was required to complete mental health and substance use counseling for marijuana [10].

Jared Lee Loughner shot Arizona Congresswomen Gabrielle Gifford and eighteen other, killing six. He was arrested in 2007 for marijuana possession and other paraphernalia. Friends and classmates knew him as a marijuana user. He was also diagnosed with paranoid schizophrenia [11].

The Tsarnaev brothers killed three and injured 264 others with bombs at the Boston Marathon on April 5, 2013. Friends say they were both heavy marijuana users. The wife of the older brother, Tamerlan, described a change in his attitude as he became violent toward her with his increasing marijuana use [12].

A Dearborn Heights man plotted ISIS attacks on church. In an affidavit filed in a criminal complaint on weapons and marijuana charge, Khalil Abu-Rayyan is described as being an ISIS supporter who talked about committing violent acts of terrorism, including shootings and beheadings [13].

Osama bin Laden became paranoid and obsessive in the days prior to his death. High-strength marijuana plants were found within bin Laden's compound in Pakistan [14].

Studies Show an Association between Marijuana and Mental or Physical Consequences

Studies show violence and aggression with marijuana use

Marijuana intoxication results in panic reactions and paranoid feelings whose symptoms lead to violence [15]. The sense of fear, loss of control, and panic is associated with violence [16-18]. Also marijuana use increases heart rate, which may be associated with violent behaviour [19-22].

When people stop using marijuana they may experience a variety of withdrawal symptoms, including sleep disturbance, irritability or restlessness, loss of appetite, anxiety, and sweating [23,24]. Experiencing any of these symptoms can make a person angry, ranging from mild irritation to violent rage. Marijuana withdrawal can lead to intimidating violent or bullying behavior, endangering the perpetrator or other people and property [25].

In incarcerated subjects, studies found that one-third of the subjects that committed homicide had used marijuana twenty-four hours before the homicide. Further, three-quarters of those subjects were experiencing at least one mental or physical effect from marijuana intoxication when the homicide occurred.

Similarly, individuals in remote Aboriginal Australian Communities who reported current cannabis use were nearly four times more likely than nonusers to present at least once for violent trauma. Homicide offenses have been repeatedly documented to be connected to drug use, and marijuana is often one of those drugs [26].

Marijuana use is also indicative of intimate partner violence [27]. Consistent use of marijuana during adolescence was the most predictive indicator of intimate partner violence [28]. Also, marijuana use during adolescence was associated with perpetration or both perpetration and victimization by an intimate partner in early adulthood [29].

There is also a positive association between peer victimization and cannabis use in adolescents. Cannabis use is likely to be associated with perpetrator victims, those who initiate violence while using marijuana and experience retaliation to their aggressive acts. This trend suggests that cannabis use might be strongly related to outward aggression by the user [30].

Cannabis use also increases an adolescent's own likelihood of being victimized by peers. In particular, mental effects of cannabis have the potential to decrease the ability to accurately identify, evaluate, or avoid potentially dangerous persons or situations [25].

Studies show psychosis and paranoia

Cannabis intoxication leads to acute psychosis in many individuals and can produce short-term exacerbations of pre-existing psychotic diseases [31-34]. Cannabis use also causes symptoms of depersonalization, fear of dying, irrational panic and paranoid ideas which coincide with acute intoxication and remit quickly [35].

It was reported that 15% of cannabis users identified psychotic-like symptoms, the most common being hearing voices or having unwarranted feelings of intimidation and persecution or paranoid thoughts [36].

The potency of the marijuana has varying effects on users. A study analyzed the proportion of patients in South London with first episode psychosis attributable to high-potency cannabis use and found that the use of high-potency cannabis (skunk) confers an increased risk of psychosis compared with traditional low-potency cannabis (hash) [37].

The risk of individuals having a psychotic disorder showed a roughly three times increase in users of skunk-like cannabis (high-potency) compared with those who never used cannabis. Use of skunk-like cannabis everyday conferred the highest risk of psychotic disorders compared with no use of cannabis [6]. Potency in these studies is similar to marijuana currently available in the U.S. Direct administration of cannabis resulted in predictable increased occurrence of paranoia in comparison to those who received placebo.

Epidemiological studies showed that cannabis is the most frequently used drug among those diagnosed with bipolar disorder [5]. Studies have also shown that as the frequency of cannabis use increases, so does the risk for psychotic disorders, such as schizophrenia [38]. The investigators of Schizophrenia Commission concluded that cannabis use is the most preventable risk factor for psychosis [39-44]. High proportions of persons with schizophrenia report regular cannabis use and meet criteria for cannabis use disorder [45].

Findings suggest that activity in the basal lateral medulla is involved in marijuana-induced paranoia (state of becoming afraid of things that would normally trigger fear) [44]. That means marijuana is actually enhancing type of learning about fear, leading the brain to jump to conclusions about the mild experiences, perceiving them as scarier as and more strongly connected to other scary situations than they are. This marijuana induced fear-based learning helps explain why marijuana users tend to see patterns in events that are not real, such as conspiracies [45] (Table 1).

In a study analyzing a college population, heavy users of marijuana displayed significantly greater impairment than light users on intentional/executive functions. This led to the conclusion that heavy marijuana use is associated with residual neuropsychological effects even after a day of supervised abstinence from the drug [46,47].

What did the cases have in common?

Cases of Marijuana Use and Symptoms	
Case	**Symptoms**
Michael Brown	Aggressiveness, Personality Change, Paranoia
Trayvon Martin	Aggressiveness, Personality Change, Paranoia
Laquan McDonald	Aggressiveness, Personality Change
Devon Guilford	Aggressiveness, Personality Change
Freddie Gray	Paranoia
Lakeisha Holloway	Aggressiveness, Personality Change
Robert Lewis Dear	Psychosis
Joseph Jesse Aldridge	Psychosis
Gerard Lee Loughner	Aggressiveness, Personality Change, Psychosis
Tsarnaev Brothers	Aggressiveness, Personality Change
Khalil Abu-Rayyam	Psychosis

Osam bin Laden	Paranoia, Psychosis

Table 1: Marijuana uses and symptoms.

Discussion

We apply the results of the research regarding the role of marijuana in violence. We use concepts such as personality changes, perpetrator violence, and psychosis to establish our association of marijuana with the unfortunate cases. The purpose is to illustrate negative but preventable tragic outcomes due to marijuana and its role in violence. The overall objective is to identify the role of marijuana and to suggest it is avoidable and causal nature in inducing violence [48-50].

In all the cases selected, marijuana use was present. For some of the individuals, marijuana use was confirmed by a physical test. In other cases, marijuana was present on their person, indentifying drug use. Moreover, some individuals of the case were identified as marijuana users by outside sources.

Personality change toward aggression or violence (Chart 1)

Paranoid Personality Disorder
A. A pervasive distrust and suspiciousness of others such that their motives are interpreted as malevolent, beginning by early adulthood and present in a variety of contexts, as indicated by four (or more) of the following:
Suspects, without sufficient bases, those others are exploiting, harming, or deceiving him or her.
Is preoccupied with unjustified doubts about the loyalty or trustworthiness of friends or associates.
Is reluctant to confide in others because of unwarranted fear that the information will be used maliciously against him or her.
Reads hidden demeaning or threatening meanings into benign remarks or events.
Persistently bears grudges (i.e., is unforgiving of insults, injuries, or slights).
Perceives attacks on his or her character or reputation that are not apparent to others and is quick to react angrily or to counterattack.
Have recurrent suspicions, without justification, regarding fidelity of spouse or sexual partner.

Chart 1: Paranoid personality disorder (PPD) symptoms.

Present in all the cases, as a result of marijuana use, was the change in personality, aggressive behavior, paranoia and/or psychosis. All these symptoms have been documented by scientific research to be the result of marijuana use and intoxication. Another symptom, victimization, has a positive correlation with cannabis use, and the cases illustrate marijuana users and victimization [51,52]. In other words, marijuana users become victims of aggression in response to their perpetration under the influence of marijuana.

DSM V provides diagnostic categories for paranoid personality, paranoia and psychosis associated with marijuana use [53].

Michael Brown was a marijuana user and it was found in his system at the time of death. Further, Brown illustrated aggressive tendencies and victimization, as he was reported to aggressively assault a store clerk prior to his aggression towards a police officer. These actions were contrary to non-aggressive tendencies purported by those closest to Brown. Brown's intoxication of marijuana likely accounted for the aggression and assaults. While contributing factors such as race and poor police practices may have contributed to Brown's unfortunate death, Brown likely would have been alive had he not been a user of marijuana in this particular instance. Apparently he was acting under the influence in an uncharacteristically high risk manner.

Similar to Brown, Trayvon Martin was known to have used marijuana. He was suspended from school for marijuana use at the time of his altercation with Zimmerman. Under the influence of marijuana, Martin likely illustrated victim perpetration from marijuana which increased aggressive behavior through participation in the altercation with Zimmerman. This physical fight with Zimmerman was behavior is to the surprise of others who claimed Martin was mild mannered who likely would avoid such a confrontaion. Marijuana use likely created the fear and aggressive behavior due to poor judgment and threatening perceptions induced by marijuana, contribution to Martin's death [19,23].

Tamerlan Tsarnaev follows similar patterns. He was a known heavy marijuana user. There was a sharp change in his personality confirmed by his wife associated with very heavy use and involvement with marijuana, resulting in the violence towards his wife according to her. Likely, intoxication from marijuana created and contributed to the paranoid thoughts and poor judgment to detonate a bomb in a crowd of people [34,40].

Similarly, Laquan McDonald was a known marijuana user since 10 or 11 years old. The intoxication from the use of marijuana likely caused McDonald to slash a cop car's tire, as he was known to be respectful and reserved. His life would have been saved without marijuana induced aggressiveness and poor judgments, and senseless, high risk actions towards police [19,23].

Deven Guilford is another preventable but clear example high risk and poor judgement from marijuana use. After being stopped in his car, Guilford assaulted a police officer for unknown reasons and apparently paranoid reactions to police actions. Guilford was preoccupied with and user of marijuana at a relatively young age. His marijuana use likely contributed to the change in his personality to be aggressive and assaultive to provoke his death in a high risk police stop [19,23].

Similarly, Jared Lee Loughner was known to be a heavy marijuana user. People described a large personality change from his youth. Loughner went on a shooting spree, killing six people. Marijuana was likely a major contributor to the drastic change in personality toward violence. Had marijuana been identified as a problem, his aggressive and assaultive act may have been prevented and lives could have been saved [19,23].

Lakeisha Holloway shows another example of senseless loss. In contrast to her personality from her youth, she drove a car onto the sidewalk of the Las Vegas strip, killing one person and injuring others. Marijuana was in her system at the time of the attack and likely contributed to the lethal aggression exhibited, and likely, psychotic, paranoid thinking.

Psychosis (Chart 2)

Substance-Induced Psychotic Disorder
A. Presence of one or both of the following symptoms:
Delusions
Hallucinations
B. There is evidence from the history, physical examination, or laboratory findings of both (1) and (2):
The symptoms in Criterion A developed during or soon after substance intoxication or withdrawal or after exposure to a medication.
The involved substance is capable of producing the symptoms in Criterion A.
C. The disturbance is not better explained by a psychotic disorder that is not substance-induced. Such evidence of an independent psychotic disorder could include the following:
The symptoms preceded the onset of the substance use; the symptoms persist for a substantial period of time (e.g. about 1 month) after the cessation of acute withdrawal or sever intoxication; or there is other evidence of an independent non-substance-induced psychotic disorder (e.g. a history of recurrent non-substance-related episodes).
D. The disturbance does not occur exclusively during the course of a delirium.
E. The disturbance causes clinically significant distress or impairment in social, occupational or other

Chart 2: Substance-induced psychotic disorder symptoms.

Studies have illustrated the connection between cannabis use and psychosis [54]. Marijuana has been shown to increase the risk for psychotic disorders and/or exacerbate pre-existing psychotic diseases. Consistent with research, marijuana resulting in psychosis is illustrated in many of the cases described above. Joseph Jesse Aldridge, described as a recluse, went on a shooting rampage after finding his mother deceased. Aldridge was a known marijuana user and had history of psychosis. His marijuana use likely contributed to his psychosis, and a major factor for the shooting rampage [55,56].

Similar to Aldridge, Jared Lee Loughner was admittedly a marijuana user. He suffered from a mental illness of paranoid schizophrenia. Loughner then went on a shooting spree killing six people. His marijuana use likely exacerbated the psychosis, which was a high risk factor for the shootings [33,35,55].

Analogous to Aldridge and Loughner, Robert Lewis Dear went on a shooting spree in Colorado. Dear moved to Colorado for easier access to marijuana. Dear also exhibited signs of mental health illness, psychosis and paranoia, which caused or exacerbated by marijuana, which resulted in his shooting spree [18,31].

While Khalil Abu-Rayyan did not result in a shooting rampage, this case illustrates the same ideas as previous cases. Abu-Rayyan used marijuana. He illustrated signs of psychosis through the threats of terrorism and martyrdom. Abu-Rayyan obtained the instruments to carry out his plans. The psychosis, contributing to the terroristic thoughts, marijuana use contributed to and exacerbated his aggressive behaviour [31,36,55].

Similar to Abu-Rayyan, Osama bin Laden also had notorious terroristic and paranoid behavior. Bin Laden was a marijuana user, growing high strength plants within his compound in Pakistan. Unfortunately, bin Laden's psychosis, associated and exacerbated by marijuana use, may have prompted him to carry out the most heinous terrorist attacks in history. Without marijuana use and subsequent psychosis, many deaths may not have occurred [31,55,56].

Paranoia (Chart 3)

Subtypes Delusional Disorder
Grandiose type: This subtype applies when the central theme of the delusion is the conviction of having some great (but unrecognized) talent or insight or having made some important discovery.
Persecutory type: This subtype applies when the central theme of the delusion involves the individual's belief that he or she is being conspired against, cheated, spied on, followed, poisoned or drugged, maliciously maligned, harassed or obstructed in the pursuit of long-term goals.

Chart 3: Types of delusional disorder (DD).

In addition to psychosis and aggression, paranoia has been connected to marijuana intoxication [57,58]. Studies have illustrated THC significantly increase paranoia through a physical pathway. The cases described above illustrate such paranoia in marijuana users. For instance, Freddie Gray was arrested after he fled on the mere sight of police officers. During his arrest in the intoxicated state, he was injured which resulted in his death. Gray was a known drug addict and user of marijuana. His marijuana use likely induced paranoia thinking and poor judgment which prompted him to flee from police, threatening to him. Without marijuana and other drug intoxication, his cooperation likely would have been different, and he would avoided his high risk apprehension, and death avoided [34,36,40].

Similarly, Trayvon Martin got into an altercation with a Neighborhood Watch guard. Martin, speaking to his girlfriend, stated that a "creepy" man was following him and that he tried to evade the follower. His description is characteristic of apprehensive beliefs, and a sign of paranoia thought. Otherwise, Martin according to his family would not have fought with Zimmerman, had masituation escalated due to the paranoia, caused by the use of marijuana [34,36,40].

Osama bin Laden also illustrated paranoia, in letters that were discovered after his death. Paranoia was caused by his frequent marijuana use. This paranoia resulted in his adverse view of the US government. Unfavorable views toward the US resulting from extreme paranoia, coupled with psychosis, resulted in his terrorist attacks. Marijuana abstinence could have prevented the death of thousands of people [34,36,40].

These cases contained diverse variables: encounters with police, race, altercations, confrontation and mental illness. Other drug use was present but not the same across all cases. However, marijuana and violence are the common denominators in all the cases. Many were not victims of police aggression, some perpetuated police responses, some not. Diverse races and cultures were represented, and no stereotype was evident among the cases of violence and marijuana use. The variables, marijuana and violence were present in all cases.

An extensive review of the scientific literature document a clear association between marijuana and violence, psychosis, personality changes, poor judgment, aggression, victim perpetration. There are other possibilities and contributing factors in the execution of the violent behaviors, though probably not present in all cases. The purpose of this case report is to illustrate the probable role of marijuana in violent behaviors.

The review does not prove a causal relationship between marijuana and violence in these cases. Rather it establishes a highly documented association between marijuana and violence. A legal standard used for causation can be applied to illustrate this association. A legal cause is "but for" the actions or circumstances, the result would not have occurred. A proximate cause is the result was "foreseeable" based on the facts and actions. The most likely legal and proximate cause of violence in these cases was the use and intoxication from marijuana. No other variables fulfill these requirements.

Conclusion

According to research studies, marijuana use causes aggressive behavior, causes or exacerbates psychosis and produce paranoias. These effects have been illustrated through case studies of highly publicized incidents and heightened political profiles.

These cases contain examples of repeated illustrations of aggression, psychosis and paranoia by marijuana users and intoxication. Ultimately, without the use and intoxication of marijuana, the poor judgment and misperceptions displayed by these individuals would not have been present, reducing the risk for actions that result in senseless deaths.

Import to these assertions, is that the current marijuana is far more potent in THC concentrations, the psychoactive component. Accordingly, and demonstrated in direct studies, more potent marijuana results in a greater risk for paranoid thinking and psychosis. In turn, paranoid behavior increases the risk for paranoid behaviors and predictably associated with aggressive and violent behaviors.

Marijuana use causes violent behavior through increased aggressiveness, paranoia and personality changes (more suspicious, aggressive and anger).

Recent illicit and "medical marijuana" (especially grown by care givers for medical marijuana) is of much high potency and more likely to cause violent behavior.

Marijuana use and its adverse effects should be considered in cases of acts of violence as its role is properly assigned to its high association.

Recognize that high potency marijuana is a predictable and preventable cause of tragic violent consequences.

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