

Criminal responsibility and substance abuse, two forensic cases and an international review

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Abstract

Objective: This paper explores how substance abuse influences criminal responsibility, combining two forensic case studies with a comparative analysis of international legal approaches.

Methods: A multidisciplinary review was conducted, integrating legal frameworks and psychiatric literature across jurisdictions. Two Italian forensic cases involving synthetic cannabinoids and chronic polysubstance dependence are examined to illustrate critical issues.

Results: Jurisdictions vary significantly in how they treat intoxication and addiction in criminal law. In particular, New Psychoactive Substances (NPS) present challenges due to their rapid evolution and psychiatric unpredictability. Neuroscientific research reveals long-standing cognitive impairments in individuals with chronic addiction.

Conclusions: The binary legal distinction between voluntary intoxication and insanity is inadequate in addressing complex addiction-related behaviors. Integrating clinical knowledge into legal standards is essential to fairly assess diminished capacity without negating accountability.

Keywords: Substance-Related Disorders; Criminal Responsibility; New Psychoactive substances (NPS); Chronic Intoxication; Addiction

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Criminal responsibility and substance abuse, two forensic cases and an international review

Introduction

The impact of substance use in relation to criminal behavior has been before the courts for some time. It is particularly important for today's forensic mental health professionals, given that the high correlation of major mental illness with substance use disorders. While there may be some direction established through case law, attorneys and others involved with the legal process often rely on the opinion of the forensic mental health clinician in cases in which a defendant has used a mind-altering substance that could have affected behaviour at the time of the alleged crime. Talking about criminal responsibility and substance abuse, an important premise is that in Italy the Penal Code dates back to 1930, a time in which the criminogenic problem of drug addiction was negligible. According to the Penal Code, the concept of responsibility for a crime is based on the concept of imputability, that is to say that a criminal defendant must be shown to have the integrity of the capacity to intend and the capacity to will when he committed the crime (Ciccone & Ferracuti, 1996). The capacity to intend, i.e., is "the ability that the individual has to understand the value and therefore the negative social value of that action or omission". The capacity to will, is "the ability to have control of oneself to reach or avoid the deed that constitutes the crime (the capacity to act on one's free will)" (Carabellese & Felthous, 2016). Offenders can be deemed not guilty by reason of insanity (NGRI) based on Article 88 of the Italian Penal Code when the capacity to intend or the capacity to will are totally impaired (*infermità*) or partially mentally impaired (*semi infermità*) based on the Article 89 of the Italian Penal Code, usually after having served a reduced imprisonment. The voluntary acute intoxication is a condition that generally did not lead to the irresponsibility for a crime committed because a crime committed in a state of preordained incapacity is punishable, according to Article n. 87 of the Italian Penal Code. The peculiarity of these actions is that the execution of the crime is fictitiously traced back to the moment in which the agent preordained the state of incapacity (*actiones liberae in causa*). The Article 94 of the Italian Penal Code states that when the crime is committed by a drunk person, and this is habitual, the sentence is increased. For the purposes of criminal law, anyone who is addicted to the use of alcoholic beverages and is frequently drunk is considered a habitual drunk. The aggravated sentence established in the first part of this article also applies when the crime is committed under the influence of narcotic substances by those addicted to the use of such substances. Although alcoholic

substances and narcotic substances are treated in the same way, there is however a difference regarding habituality. In fact, while a person is defined as habitual drunk when he is addicted to the use of alcohol and is in a frequent state of drunkenness, for narcotics the habit and the consequent increase in punishment are implemented only due to the fact that the person is addicted to substance use. For acts committed in a state of chronic intoxication caused by alcohol or narcotic substances based on Article 95 of the Italian Penal Code, the provisions contained in articles 88 and 89 apply. Law does not provide a definition of what is a chronic intoxication but this mental state must determine a total impairment or partial impairment of the capacity to intend or to will at the time of the crime. One of the main orientations of jurisprudence identifies chronic intoxication as a permanent alteration of the biochemical balance of the brain, the other main orientation identifies its incurability as the main characteristic of chronic intoxication (Snenghi, et al 2012). This concept was reiterated over the years by the Court of Cassation, which in the judicial system in force in the Italian Republic represents the judge of legitimacy of last resort. A recent sentence states:

"The situation of drug addiction that affects the ability to understand and will is only that which, due to its ineliminable character and the impossibility of recovery, causes permanent pathological alterations, that is, a pathology at the cerebral level involving psychopathies that persist regardless of the renewal of an action closely linked to the intake of narcotic substances, such as to make it appear indisputable that we are faced with a real mental illness" (Cassazione penale, Sez. VI, 2018).

Drugs of natural and synthetic origin

Synthetic drugs have proliferated in drug markets in the last decade. However, methamphetamine and 3,4-Methylenedioxymethamphetamine (MDMA) are probably the most widely used and supplied synthetic drug worldwide and their manufacture and use continue to expand across the globe (UNODC, 2023). Synthetic cannabinoids encompass a wide class of ever-changing compounds, which continue to be found in drug markets everywhere. New Psychoactive Substances (NPS) include synthetic cannabinoids (Spice, K2), synthetic cathinones (bath salts, flakka, methylene), psychedelics such as tryptamines (DMT, 5-MeO-DMT) and phenethylamines (MDMA, Ecstasy, Molly). These substances, that are not subject to control, have reshaped a drug market once dominated by the drugs of natural origin. Drugs of synthetic origin compare to the drugs of natural origin offer

many advantages to the criminal organizations in terms of materials, scale and scope of production, production time (hours or days vs. months) and trafficking (larger quantities of primary inputs and vast distances of transport vs. smaller quantities of primary inputs and shorter distances of transport). If the synthetic drugs are very popular worldwide, the consumption of the drugs of natural origin is constantly increasing. The United Nations Office on Drugs and Crime (UNODC) reports that 3.9% of the global adult population uses cannabis, with a total number of 180.6 million of cannabis users worldwide. This outweighs the number of users of all other illicit substances considered together (UNODC, 2023).

Substances and psychosis

From a clinical point of view, the difference between the acute intoxication and drug addiction has been overcome in the DSM-5 (American Psychiatric Association, 2013), abolishing the difference between use and addiction and introducing the Substance Use Disorders (SUDs). As regard the pharmacology and the psychoactive effects of the drug of the natural origin, these are largely understood while those of the drugs of synthetic origin are not always known or predictable even if the chemical structure is known (UNODC, 2023 Table 1 page 17). Cannabis use has been widely reported to induce acute psychotic experiences, to affect the severity of psychotic symptoms, and previous meta-analyses have reported a 2-fold increase in the risk to develop a psychotic disorder in cannabis users compared to non users (Marconi, et al. 2016). Current evidence shows that high levels of cannabis use increase the risk of long-lasting psychotic disorders and confirms a dose-response relationship between the level of use and the risk for psychosis. As for the most common psychostimulants, the clinical presentation of amphetamine-induced psychosis is similar to schizophrenia spectrum illnesses, and can include disorganized thoughts, impaired concentration, delusional beliefs (often persecutory in nature), hallucinations, and hyperactivity. Regarding the use of cocaine, transitory paranoia resulting from acute effects of cocaine use are one of the most common effects of use, occurring in about 90% of cases (Roncero, et al., 2012). The use of methamphetamines lead to transient psychosis in about 23% of the users, common clinical characteristics of methamphetamine-associated psychosis include persecutory delusions, auditory and visual hallucinations, hostility, anxiety, depression, cognitive disorganization, and hyperactivity. There is inconsistent evidence whether negative symptoms of psychosis are associated with this phenomenon. As with other substances, the risk of psychosis appears higher with increased drug potency and frequency of use (Voce, et al. 2018). In the international literature are also described cases of Toxic Leukoencephalopathy (TL), a neurologic disorder in which the white matter of the brain is damaged by a leuko-toxic substance, induced by inhalation of heroin, glue, toluene and other volatile compounds such as fentanyl (Eden, et al. 2024). In these cases prognosis and recovery

generally depend on the degree of white matter injury, including endothelial injury, myelin sheath degradation or a combination of the two. In a scoping review on the prognosis in substance abuse-related acute TL, Macchi et al. (2022) found that among 52 cases, 21 (40.4%) individuals died with mean time to death of 28.2 days; with mean follow-up of 12.8 months, 10 (19.2%) survived with no recovery, 17 (32.7%) had partial recovery, and 4 (7.7%) individuals had full recovery.

Substance Induced Psychosis (SIP) and Primary Psychotic Disorder (PPD)

Clinicians face a key diagnostic challenge in the differentiation between SIP and a PPD. SIP is defined in the DSM-5 (American Psychiatric Association, 2013) by the presence of delusions and/or hallucinations that arise and persist in the context of acute intoxication or withdrawal from a substance and are not exclusively attributable to delirium. A diagnosis of SIP also requires a lack of insight into one's symptoms and remission of symptoms within one month of sustained abstinence, although some studies suggest that psychosis can persist long after abstinence. Longitudinal studies of SIP suggest that approximately 11-46% of persons will progress to schizophrenia with different risk of progression depending on the type of substance used (Gicas, et al., 2022). Although patients with SIP demonstrated similar positive symptom severity and more severely disturbed behaviour at admission compared to patients with PPD, they also exhibited more rapid abatement in both symptom categories (Dawe, et al. 2011). Other authors suggested that following cessation of substance misuse, patients initially diagnosed with SIP did not experience more rapid symptom remission compared to patients with a PPD and concomitant substance use. In fact, patients with SIP demonstrated significantly less improvement of hallucinations from baseline to follow-up when compared to patients with PPD. Although epidemiological research is scarce, one study estimates the incidence of SIP to be approximately 6.5 in 100.000 persons per year, compared to 9.7 with PPD and co-morbid substance misuse, and 24.1 with PPD alone (Weibell, et al. 2013). Among patients presenting to intervention services for First Episode Psychosis (FEP), the proportion diagnosed with SIP as opposed to PPD or affective psychosis ranges between 6% (Thompson, et al. 2016) and 10% (O'Connell, et al. 2019). However, in studies examining an FEP cohort with past-month substance use, the prevalence of SIP increased dramatically, ranging from 44% (Caton, et al. 2005) to 56% (Fraser, et al. 2012). Although patients with SIP use substances at higher rates than patients with PPD, substance use is still pervasive among patients with PPD, with reported rates varying from 35% to 61% (O'Connell, et al. 2019).

Criminal responsibility and substance abuse worldwide France

Criminal responsibility has been a core principle of French criminal law since the early nineteenth century.

Despite debates and sporadic experiments throughout the nineteenth and twentieth centuries (Renneville 2003; Guignard 2010), the dichotomy between psychiatric hospitals and prisons still underpins French criminal law. A recent law adopted on January 24, 2022, reformed the insanity defense in France. This law provides that defendants may not employ an insanity defense in cases where their discernment was temporarily eliminated due to the voluntary consumption of psychoactive substances shortly before the crime (Library of Congress, 2022). Before this legislation, French law allowed an insanity defense to apply to all cases where the accused suffered from a mental disturbance that eliminated their discernment or control over their actions, without making any distinctions as to the cause of this mental disturbance. Additionally, the law of January 24, 2022, created two new criminal offenses that apply when a defendant was found to be penally irresponsible for a crime: deliberately taking a psychoactive substance before committing murder and before committing assault. In such cases, persons found penally irresponsible for the main crime (murder or assault) may still be prosecuted for the act of taking an intoxicating substance. This approach respects *mens rea* principles and is reminiscent of Paul Robinson's 1985 proposal: a person "may be properly punished if his liability is based on his initial conduct in causing the justifying circumstances and on his culpable state of mind, at that time, as to causing the justified harm" (Robinson, 1985).

Germany

Section 63 of the German Penal Code (Strafgesetzbuch, "StGB") stipulates that a defendant who committed a crime in a state of insanity (*Schuldunfähigkeit*) or diminished responsibility (*verminderte Schuldunfähigkeit*) can be committed for an indeterminate period of time to a psychiatric hospital if, because of this state, he is a danger to public safety (Bijlsma, et al. 2019). In addition to the preventive commitment to a psychiatric hospital of Section 63 StGB, Section 66 StGB provides for preventive detention for responsible offenders (*Sicherungsverwahrung*) who have been sentenced to at least two years of imprisonment for a crime committed with intent (*Vorsatz*). Thus, in Germany, not only diminished or not responsible offenders but also offenders responsible for their crimes can be subjected to types of indeterminate loss of freedom based on their dangerousness. As regard the issue of voluntary intoxication, if a person voluntarily becomes intoxicated and commits an unlawful act while in that state but can not be punished for the unlawful act because they lacked criminal responsibility due to the intoxication, they will receive a punishment of up to five years imprisonment or a fine (Mackay & Brookbanks, 2022). In case of serious offences committed while voluntarily intoxicated the law draws upon the principle of *actiones liberae in causa*, however this principle only permits attribution of culpability for result crimes where the type of offense was foreseeable, that is when the alleged offense requires a specific intent, or *mens rea*, which the defendant may argue

that he could not have possessed due to the effects of intoxication.

England and Wales

From a historical point of view, in 1843 the M'Naghten case was the first in modern England that focused the attention of the authorities and the public at the highest level on the issue of insanity and criminal responsibility. The discussions that followed the trial ultimately led to the M'Naghten Rule, also known as the M'Naghten Test. This test focuses on the following: 1. Whether a criminal defendant knew the nature of the crime 2. Whether they understood right from wrong at the time they committed the crime. Therefore, a defendant must meet one of these two distinct criteria for a court to declare them legally insane (Strom & Bender, 2023). Nowadays criminal cases that have been investigated by the police and other investigative organisations in England and Wales are prosecuted by the Crown Prosecution Service (CPS) (Mental Health Conditions and Disorders: Draft Prosecution Guidance, 2019). The key documents that are relevant to the CPS policy in dealing with cases in which the defendant has a mental disorder are: the Code for Crown Prosecutors (the Code); the Home Office Circular 66/90, Provision for Mentally Disordered Offenders; and offenders with mental health problems and/or learning disabilities within the National Conditional Cautioning Framework. Section 1 Mental Health Act 2007 amended section 1 Mental Health Act 1983 and defined mental disorder as "any disorder or disability of the mind" (Mental Health Act, 2007). Examples of clinically recognised mental disorders include mental illnesses such as schizophrenia, bipolar disorder, anxiety or depression, as well as personality disorders, eating disorders, autistic spectrum disorders and learning disabilities. Dependence on alcohol or drugs does not come within the meaning of "mental disorder" for the purposes of the Mental Health Act 1983, section 1 (Mental Health Act, 1983). However, mental disorders which accompany or are associated with the use of or stopping the use of alcohol or drugs, even if they arise from dependence on those substances, may come within the meaning of "mental disorder" for the purposes of the Mental Health Act 1983.

United States of America

If a defendant is found to be competent to stand trial and not criminally responsible because of his mental illness, the U.S. jurisdictions prescribe the special verdict of NGRI or some equivalent (Simon & Ahn-Redding, 2008). The American Law Institute's criterion for a successful insanity defense requires that the defendant be so affected by mental illness that he could not conform his behavior to the requirements of the law. These standards vary from jurisdiction to jurisdiction (Feix & Wolber, 2007). Both standards require the presence of a mental disease or defect that caused the defendant to be unable to understand or control his or her actions at the time of

the crime. Therefore, whether a defendant was using drugs or alcohol while committing a crime should matter little, if at all, to the question of insanity when the criteria for an insanity defense have not been met. Federal and state courts provide a wide range of interpretations of whether, and under what circumstances, the effects of substance abuse could constitute the threshold condition necessary for the insanity defense. Interpretation could range from the prohibition of any defense when there is evidence of voluntary intoxication to allowing the insanity defence when voluntary intoxication has resulted in only temporary exacerbation of an existing psychosis. However, if it can be demonstrated that substance use has triggered or exacerbated psychotic symptoms that become distinct and independent of acute intoxication (referred to as settled insanity), the threshold condition could be met. "Settled insanity" is a legal concept that allows longer term impairment resulting from substance use to serve as the basis of an insanity defense (Appelbaum, 2021). California courts have identified four criteria to determine whether a condition qualifies as settled insanity. The condition must be fixed and stable, last for a reasonable duration (although not necessarily permanently), not be solely dependent upon the ingestion and duration of effect of the drug, and meet the jurisdiction's legal definition of insanity. In the federal courts, as well as in some state courts, the presence of voluntary intoxication rules out any use of the insanity defense. The U.S. Congress enacted the Insanity Defense Reform Act in 1984, which narrowed the definition of insanity that had developed in case law and shifted the burden of proof to the defense at the "clear and convincing" level. The courts have generally not upheld substance-induced psychotic symptoms as providing for an insanity defense when the substance in question had been taken voluntarily. Voluntary intoxication may be considered a "partial" defense when the alleged offence requires a specific intent, or *mens rea*, or criminal intent. In most states, defendants are not held responsible for crimes committed under the influence of involuntary intoxication, because they are considered "unconscious" and unable to formulate the *mens rea* to commit the offence. Voluntary drunkenness is generally never an excuse for a crime, but where a defendant is charged with murder, and it appears that the defendant was too drunk to be capable of deliberating and premeditating, in that instant intoxication may reduce murder in the first degree to murder in the second degree, as long as the specific intent did not antedate the intoxication. Such instances of diminished capacity, while possibly providing some relief for the defendant, do not result in an acquittal, unlike a verdict of not guilty by reason of insanity. Diminished capacity is an argument about the specific act for which the defendant is culpable (e.g., first-degree versus second-degree murder), whereas the insanity defense is an argument that the defendant should not be held culpable at all.

Russia

According to Russian law, an individual who commits a crime in a state of psychosis is deemed as not responsible for their actions. They are sent for mandatory treatment in a psychiatric hospital. This applies to psychotic states, regardless of their type or origin. Hence it results that SIP are accepted as a reason for a not guilty on the grounds of insanity decision (Mellsop, et al., 2016). Simple intoxication due to any substance is not a mitigating circumstance and cannot serve as a defence. Recent Russian legislation provides for the possibility of a so-called alternative treatment for convicted drug addicts who had committed offences of little gravity. They obtain a deferred sentence if they agree to undergo treatment and social rehabilitation. Subsequently, if they are considered to have achieved remission, the court may release them without further punishment. In the alternative situation where a person is convicted and, the court may impose an obligation to undergo treatment, medical and social rehabilitation in accordance with the law 313 and article 72 of the criminal code of the Russian Federation.

Japan

In Japan under Article 39 of the Penal Code, an insane act is not punishable, and an act of diminished responsibility causes the punishment being reduced. There is no fair definition of insanity in Japanese Penal Code (Mellsop, et al., 2016). The Supreme Court (1931) described insanity as a state in which the capacity to be aware of the difference between good and evil or to dominate oneself based on that recognition is absent due to mental disorders. Diminished responsibility is a condition in which those capabilities are strongly reduced, as recognized in a verdict (A Judgement Document by Supreme Court. Pronounced in December 3rd 1931; in Japanese, cited in: Mellsop, et al., 2016). In this background 'mental disorders' have been considered as any of the mental disorders catalogued in the International Classification of Diseases 10th edition (World Health Organization, 1992). No specific disorder was officially eliminated from this list. Therefore, drug-induced psychoses may theoretically qualify for an insanity defence or diminished responsibility. Methamphetamine has been the dominant illicit drug used in Japan since at least the middle of the 20th Century. Although methamphetamine and other drug-induced psychoses can hypothetically inform an insanity defence, it is extremely rare for a court to acquit a defendant with drug-induced psychosis on account of insanity. There may be two reasons for this. First, under the Japanese legal system, public prosecutors can determine whether they indict the suspect or not, no matter what is the type of crime. Comprehensively, public prosecutors dispose the criminal responsibility of the suspects in most cases, tending not to prosecute suspects who appear severely impaired due to mental illness. Secondly, the strong link between methamphetamine use and organised crime in Japan may also have generated negative public

opinion against drug and particularly methamphetamine-users which may be influencing the judgement of the courts. When the Court determines criminal responsibility different factors are considered including behaviours around the crime, criminal history, personality, motives and type of the crime, the extent of psychotic symptoms, and so forth. Historically there have been cases in which full responsibility was ascribed to defendants with drug-induced psychoses and verdicts in which it was not (Nakatani, et al, 2010). While the courts have in the past deemed alcohol intoxication as a state sufficient to diminish the responsibility, at least in some instances, this is nowadays extraordinary (Mellsop, et al., 2016).

China

The history of drug use in Mainland China has been divergent from that in Western countries (Hao et al., 1997). The “anti-drug campaign” in 2005 led to an important reduction of the opiate drug use however, the use of amphetamine type stimulants has increased in China over recent years, in fact the prevalence of amphetamine use amongst drug users rising from 6.7% in 2005 to 34.4% in 2012 (Du et al., 2015). The contemporary psychiatry has increased demands on mental health services necessitating the creation of specialised psychiatric wards for patients with drug induced mental disorders (Zhang, et al., 2014). The Act N. 18 of the Chinese Criminal Code 1997 considers the criminal responsibility of those who offend while suffering SIP (Mellsop, et al., 2016). This exposes the general assumptions related to the concept of NGRI as follows: 1. A mentally ill individual who determines dangerous consequences at the time when he is unable to recognize or unable to control his own conduct is not to bear criminal responsibility after being established through accreditation of legal procedures; but his family or guardian shall be ordered to subject him to strict surveillance and arrange for his medical treatment. If necessary, he will be given compulsory medical treatment by the government. 2. A person whose mental illness is of an intermittent nature shall bear criminal responsibility if they commit a crime during a period of mental normality. 3. A mentally ill person who commits a crime at a time when they have not yet completely lost their ability to recognize or control their own conduct shall bear criminal responsibility but they may be given a lesser or a mitigated punishment. 4. An intoxicated person who commits a crime shall bear criminal responsibility (Mellsop, et al., 2016). While the Code is clear that intoxication can not constitute a defence, (Wang, et al., 2006) there is no specific mention of the substance induced mental disorders. Therefore, there has been a multiplicity of point of view and practice within China. While the Ministry of Justice enacted assessment guidelines for criminal responsibility in 2011, this has not resulted in consistency of practice (Zhang, et al., 2014). The guidelines have recommended psychiatrists to differentiate between voluntary drug use and involuntary intoxication, but the

inconsistency remains. Arrested persons who are suffering a suspected SIP are usually assessed in a psychiatric facility or a prison hospital, as is any other person recognised to be seriously mentally ill (Wang, et al., 2006). Compulsory treatment is available for those with substance addiction disorders. The Narcotics Control Law, adopted in 2007, provides for identified drug users to receive mandatory inpatient treatment. After discharge compulsory rehabilitation treatment is continued in the community under supervision. If patient relapse, they may be sent to the Compulsory Isolation Center for Drug Rehabilitation, under the jurisdiction of the forensic system (Du, et al., 2015).

India

India, like many other countries, recognizes the concept of legal insanity and incorporated the criteria of the defense of insanity in section 84 of the Indian Penal Code (IPC)(Bhatnagar, 2020). Accordingly, a person cannot be held liable for his offense if such a person, at the time of the commission of a crime, was incapable of understanding the nature of the act and/or the concept of right and wrong (India Code, 1860). The scope of section 84 is limited only to the mental state of an accused at the time of the commission of an offense. The mental state of an under-trial person and/or a prisoner cannot be dealt with under this section. However, this section does not define insanity, unsoundness of mind, or mental disorder, thus, it carries different meanings in different contexts (Ajmal, et al., 2023). More recently, Section 2(1) (s) of the Indian Mental Healthcare Act, 2017 (India Code, 2017) defined mental disorder as an illness which significantly and adversely affects various fundamental human functions. According to lawful perspective, an accused must be held liable of the crime that he has committed, so long as the accused realize that the offense done is unreasonable to law. According to the clinical perspective if a person who is under the influence of any drug commits a crime can use the plea of insanity under Section 84. However, only the legal insanity and not the medical insanity falls within the bracket of section 84. India Legal System only recognizes cognitive aspects of the human brain, which implies that accused is not competent of understanding the complexion of wrongdoing or crime and what is wrong and against the law. The Supreme Court ruled out that people who are mentally not stable and are unable to seek protection from a criminal trial, as it is the responsibility of accused to demonstrate the existence of lunacy at the time or hour of committing an offense. The consideration defense of plea so, therefore there has to be a distinction between clinical insanity and legal insanity. The test which should be implemented would be legal insanity and not clinical insanity.

New Zealand

The New Zealand Court has considered mental disorders as a term which “defies precise definition and which

can comprehend mental derangement in the widest step” (Mellsop, et al., 2016). The Court decides if the mental state of the perpetrator at the time of the offending, as described in expert documentation, could be defined as a disease of the mind, and to guide the jury appropriately. Comprehensively, the insanity defence is scarcely adopted in New Zealand, and commonly only in cases involving severe crimes, such as murder. If SIP can be considered as mental disorder from a legal perspective has been controversial. The New Zealand Penal Code gives little instructions and decisions are based on case law. Psychoses are commonly considered a disease of the mind when they originate from an inner cause. Inner causes can include mental disorders like schizophrenia or mood disorders while outer causes can comprehend traumatic brain injuries or the use of substances or alcohol (Adams, et al., 2008). A transitory psychosis caused by substance use is not currently deemed as a disease of the mind in the legal terms. However, it is recognised that offenders may have an underlying mental disorder in which psychotic symptoms, with associated offending, are accelerated by drugs. One of the two informal conditions required for insanity defense is that the induced psychotic state would persist without regard to the substance use (Adams, et al., 2008). In such cases, the Tribunal often concentrates on if the primary cause of the psychosis is substance use or whether a primary mental disorder is largely culpable. Essentially, this can be not solvable problem (Thom, et al., 2011). In the real world the legal definitions often tend to oversimplify such clinical complexity, emphasising dualism over multiplicity. Current legal practise is that SIP cannot result in a successful NGRI defence because it is considered to be a self-induced condition involving an external factor (Adams, et al., 2008). This criteria has been confirmed by the New Zealand Court of Appeal. In New Zealand intoxication can be used as a defence if it can be shown that the defendant was so intoxicated as to have been unable to form the requisite intent necessary for the crime (*mens rea*). The duty of proving the requisite mental state rests on the prosecution. New Zealand does not recognise diminished responsibility as a partial defence. Mitigating factors are taken into account at sentencing. However, under s9(3) of the Sentencing Act, sentencing Judge is expressly prohibited from considering intoxication as a mitigating factor, but mental disorder can be considered. Sometimes the judge will order that an alcohol and drug assessment be completed before sentencing.

Australia

In the last decade legislation and public policy regarding intoxication and criminal responsibility has been the subject of significant review across all six states of Australia. Victoria is the only state where common law applies in relation to mental health defences (Yannoulidis, 2006). In a case appeal by the Crown to the High Court of Australia against the acquittal of the defendant, the High Court in a majority decision ruled that evidence of intoxication was admissible in determining the voluntary na-

ture of an act. In the remaining states provisions referred to intoxication and criminal responsibility, based on M’Naghten’s rules, are contained in the respective criminal code of each jurisdiction. As an example, Queensland legislation includes an additional component pertaining to deprivation of control. It states that intentional intoxication excludes a person from raising the insanity defence, however, as in Victoria, intoxication is relevant in determining whether a person had intent to commit an offence, where intent is an element of the offence. Scott (2012), describing a case related to amphetamine induced psychosis and murder, traced the evolving interpretations of the Criminal code, from cases where drug induced psychosis alone was accepted as a defence, to a much narrower interpretation in a more recent appeal court decision (*The Queen v Clough*). In the latter case, the accused had a pre-existing mental disorder, had intentionally used cannabis and amphetamines more than 24 hours prior to the offence but was actively psychotic following this substance use. The Court of Appeal considered any effect of intentional intoxication, irrespective of duration, would not be afforded an insanity defence (Scott, 2012). For individuals afforded an insanity defence, where substances were implicated or a problem more generally, abstinence from substance use would likely be ordered as a fundamental element of an individual’s treatment.

United Arab Emirates

The criminal law of the United Arab Emirates (UAE) recognizes the principle of the insanity defense against the criminal responsibility of an accused. The insanity defense is dealt with under Article 138 of Federal Law No. 31 (2021), which primarily revolves around the principle of the complete inability to control one’s actions at the time of perpetration of an offense due to mental disorders (Ajmal & Rasool, 2024). Article 1 of Federal Law No. 10 (2023) on Mental Health defines a mental disorder as a disturbance in mental abilities sufficient to cause a defect in everyday functioning. However, the role of medical opinion is central in determining the plea of insanity. The law on the defense of insanity in the UAE was comprehensively dealt with under Article 60 of Federal Law No. 3 (1987). Article 60 asserts that criminal responsibility cannot be fixed on a person if such a person is not in his senses at the time of perpetration of the crime, and that too is subject to the fulfilment of certain conditions. The loss of consciousness and/or perception was the criteria for the defense of insanity. The loss of perception or consciousness must be either due to mental handicap, madness, or the influence of intoxicating substances taken unconsciously (Article 60, Federal Law No. 3, 1987). Moreover, under Article 2 of Federal Law Number 3 (1987), an accused in a criminal charge is presumed innocent until proven guilty, and this principle is followed in cases of plea of insanity too. The plea of insanity cannot be taken merely because the accused has some mental condition and/or disorder; rather, the complete loss of control over one’s actions is the main criterion in this regard (Ar-

ticle 138, Federal Law No. 31, 2021; Ajmal & Rasool, 2024). The law in the UAE recognizes the defense of insanity not just in the case of any permanent mental disorder but also if the insanity is induced in an offender due to the use of drugs, narcotics, or other intoxicating substances. However, insanity, mental deficiency or unconsciousness because of drugs, etc. can be taken as a defense if such intoxicating substances are given to a person forcefully or taken by him unintentionally. Moreover, in the given scenarios, an insanity defense can be taken if there is a substantial loss of perception or will at the time of the perpetration of a crime. Partial loss of perception or will at the time of perpetration of a crime because of drugs, etc. will be dealt with under the principle of diminished capacity (Article 62, Federal Law No. 31, 2021; Ajmal & Rasool, 2024). It is evident from Article 63 of Federal Law No. 31(2021) that the want of perception or will because of intoxication material taken by a person deliberately cannot be taken as an excuse; even in certain circumstances, voluntary taking of such materials will be an aggravating factor (Article 63, Federal Law No. 31, 2021). Ajmal & Rasool (2024) claimed that the law on insanity defense in the UAE can be further developed and suggested important changes in the cited Articles in order to align with the modern literature of mental health sciences and jurisprudence in the context of legal insanity.

South Africa

Since 1977 the insanity defense in South Africa has been governed by statute (Swanepoel, 2015). In terms of section 77 of the Criminal Procedure Act, an accused who suffers from mental illness or defect may as a result not be fit to stand trial. The enquiry into the capacity of the accused to understand the nature of the trial process is seen as a preliminary issue that has to be finalised before the issue of criminal responsibility for the conduct is examined. If the insanity defense is raised, the test to determine the offender's criminal responsibility must be applied. This test is set out in section 78 (1) of the Criminal Procedure Act Section 78 (1) reads as follows: a person who commits an act which constitutes an offence and who at the time of such commission suffers from a mental illness or mental defect which makes him incapable - (a) of appreciating the wrongfulness of his act; or (b) of acting in accordance with an appreciation of the wrongfulness of his act, shall not be criminally responsible for such act. The content of section 78 (1) clarify that the words «an act which constitutes an offence» refer only to an act which corresponds to the definitional elements of the relevant crime. It is important to note that since the decision of the court depends on the facts and the medical evidence of each case. For the purposes of the insanity defence in South Africa there is no formal definition of mental illness. However, the court held in a case that in order to constitute a mental illness or defect it must at least consist in: «[A] pathological disturbance of the accused's mental capacity and not a mere temporary mental confusion which is not attributable to a mental abnormality but

rather to external stimuli such as alcohol, drugs or provocation» (Swanepoel, 2015). In another case the accused, after driving away from a party at which he had been drinking, drove into a crowd of people, killing one and injuring five others. He was acquitted on the basis of his lack of intention due to his level of intoxication. The court, however, accepted that there were degrees of intoxication and depending on the extent to which an individual was intoxicated, his or her intoxication could impair either his or her intention, criminal capacity or the voluntariness of the conduct. Due to tremendous criticism with regard to this offender being acquitted due to a lack of intention, the legislature enacted a special offence in the Criminal Law Amendment Act 1 of 1988 that made it a criminal offence when the level of the accused's intoxication was such that he or she lacked capacity (Swanepoel, 2015). Furthermore, every person is presumed not to suffer from a mental illness or mental defect so as not to be criminally responsible in terms of section 78(1) until the contrary is proved on a balance of probabilities. Whenever the criminal responsibility of an accused with reference to the commission of an act or an omission which constitutes an offence is in issue, the burden of proof with reference to the criminal responsibility of the accused shall be on the party who raises the issue.

Case Study

Case Study 1

Luigi, a 29-year-old man with a stable occupation, regular lifestyle, and no prior psychiatric or criminal history was arrested following a sudden and exceptionally violent assault against a stranger in a shopping mall. Post-arrest toxicology screening revealed the presence of a new psychoactive substance (NPS) belonging to the group of synthetic cannabinoids, consumed through a smoking blend marketed as "legal incense." Witnesses reported that, shortly before the assault, the subject exhibited signs of confusion, fear, and claimed to be followed and spied upon, suggesting a hallucinatory state. Upon admission to hospital, immediately following the arrest, the patient presented with visual hallucinations, paranoid delusions, and partial amnesia of the event.

A forensic psychiatric evaluation ordered by the court concluded that the violent episode was a unique occurrence in the subject's life, and that the ingestion of the NPS had triggered an acute toxic psychotic episode. This episode, although fully reversible, significantly impaired his ability to understand and willfully control his actions at the time of the offense. Although the substance was taken voluntarily, the subject had no prior knowledge of its potentially psychotomimetic effects, as it was advertised online as legal and risk-free.

This case raises critical questions regarding criminal liability in the context of unclassified NPS and the standards for assessing criminal responsibility in the absence of pre-existing mental disorders.

Legislation and Criminal Responsibility in relation to New Psychoactive Substances (NPS)

New Psychoactive Substances (NPS), also referred to as “designer drugs,” pose significant challenges for criminal legislation, given their rapid market emergence and continuous structural modifications designed to circumvent traditional legal controls. In Italy, the main legislative reference is Presidential Decree 309/1990, which has been repeatedly updated to include specific NPS in the official narcotic schedules through ministerial decrees, allowing for a more agile regulatory response compared to the past. Commonly used NPS include synthetic cannabinoids, synthetic cathinones, phenethylamines (similar to ecstasy or LSD), and potent synthetic opioids such as fentanyl. These substances are frequently sold online or in so-called “smart shops” under misleading labels such as “incense,” “fertilizers,” or “bath salts,” to avoid detection by law enforcement.

The effects of NPS on human behavior are highly variable and often unpredictable. They may induce temporary psychotic states or significant cognitive-behavioral alterations. Clinical and toxicological assessment is further complicated by the lack of specific detection tests and standardized toxicological protocols.

From a legal standpoint, determining criminal responsibility in relation to NPS use is particularly complex. It involves evaluating the dangerousness, psychoactive potential, and the user’s awareness of the illicit nature and consequences of their conduct. The key legal concept affected by NPS use is that of *actio libera in causa*. For instance, how should criminal liability be assessed in an individual who ingests a pill to enhance concentration, unaware that it contains a synthetic cathinone?

If there is no culpability in causing one’s state of incapacity, criminal responsibility may be excluded. However, in practice, proving this lack of culpability is challenging, and courts tend to be cautious in recognizing this exception, particularly when the setting (e.g., raves or parties) involves foreseeable risks. The principle of *actio libera in causa* applies when a person voluntarily induces a state of incapacity (e.g., via alcohol or drug use), foreseeing or accepting the risk of committing an offense while in that state. However, when an individual consumes an NPS without knowledge of its effects, applying this principle becomes legally and ethically problematic. Italian jurisprudence generally requires a minimum subjective element of culpability: if the individual could not foresee—nor was expected to foresee—even abstractly, the psychotropic effects of the substance, then the requisite *mens rea* is absent.

According to Article 93 of the Italian Criminal Code, punishment is excluded only if the intoxication was neither voluntary nor negligent. Article 94 holds the intoxicated person liable if they acted with intent or negligence prior to becoming impaired. In the case of NPS, if ingestion was voluntary but the substance’s characteristics were unknown (e.g., sold as a “legal high”), it becomes crucial to assess whether the individual was negligent in disre-

garding generic potential risks.

Therefore, *actio libera in causa* may be excluded when ingestion occurred in a context where the individual, even with ordinary diligence, could not have foreseen the substance’s psychoactive effects and the resultant impairment. This requires detailed case-by-case evaluations, based on toxicological expertise and behavioral analysis preceding intoxication, rendering criminal responsibility assessment in NPS cases particularly intricate. Jurisprudence tends to dismiss “voluntary” or negligent ignorance—i.e., ignorance that could have been avoided with minimal caution—but may accept “inevitable” ignorance as grounds for excluding liability (Art. 47 Criminal Code). Expert assessments must consider the subjective context of ingestion, the actual availability of information about the substance, and the subject’s prior behavior. Ignorance of an NPS’s effects becomes legally relevant only when it significantly impacts the intentionality, foreseeability, and awareness of the act, constituting a state of non-culpable, non-volitional incapacity.

Case Study 2

Marco, a 38-year-old man residing in a socially disadvantaged urban area, began using cannabis and alcohol at age 16, quickly progressing to cocaine and benzodiazepines. Over the years, he developed a pattern of poly-substance abuse, alternating between intense periods of use and brief attempts at abstinence. He underwent four therapeutic programs, both residential and outpatient, all of which were discontinued due to poor adherence, relapse, and lack of social support. His medical records document a severe, treatment-resistant addiction. A recent neuropsychological assessment, conducted within a reintegration program, revealed impairments in executive functions, pronounced impulsivity, and reduced planning capacity. One evening, after a long day spent wandering, Marco consumed a mixture of alcohol and drugs. In a clearly intoxicated state, he entered a supermarket, stole several bottles, and violently assaulted a security guard with a blunt object during his escape attempt. The guard sustained a compound fracture and cranial trauma. Marco, arrested in a confused state, had no clear memory of the event. He is currently held in pre-trial detention.

This case highlights the limits of the traditional legal notion of “acute intoxication”: can the violent act be solely attributed to the immediate effects of alcohol, or should it be contextualized within a framework of chronic neurobiological alterations resulting from years of polysubstance abuse? Should criminal responsibility be assessed exclusively based on the acute state at the time of the offense, or should the individual’s dysfunctional neurobiological profile, which profoundly affects control, awareness, and planning, also be considered?

Addiction and Criminal Responsibility

A growing body of neuroscientific evidence confirms that addiction is a chronic brain disorder, rather than a mere issue of personal choice or lack of willpower. Psy-

choactive substances directly affect the dopaminergic reward system, particularly the mesolimbic circuit, abnormally stimulating dopamine release and reinforcing the association between substance use and pleasure (Volkow et al., 2004). This mechanism profoundly alters motivational circuits and fosters compulsive behavior.

Long-term drug use disrupts the functionality of the prefrontal cortex, the brain region responsible for impulse control, planning, and critical judgment. This explains why individuals with addiction, though often aware of the negative consequences of use, struggle to stop (Goldstein & Volkow, 2011). Another critical factor is pathological neuroplasticity: substances create and consolidate powerful memory traces that sustain craving and relapse, even after prolonged abstinence (Hyman, Malenka & Nestler, 2006). In addition, genetic and epigenetic components contribute: some individuals are biologically predisposed to addiction, and drug exposure can permanently alter gene expression, further chronicling the disorder (Nestler, 2014). Modern neuroimaging techniques, such as functional MRI (fMRI) and positron emission tomography (PET), have confirmed these brain changes, providing visual evidence of structural and functional alterations in the addicted brain (Volkow et al., 2003). Collectively, this evidence establishes addiction as a legitimate neurobiological disease requiring complex, integrated treatment approaches.

Legal Implications of Addiction in Criminal Responsibility

The aforementioned findings demonstrate that individuals with substance use disorders exhibit structural and often irreversible impairments in cognitive and decision-making capacities—even outside episodes of acute intoxication (Goldstein & Volkow, 2011; Hyman et al., 2006). The altered prefrontal cortex significantly reduces their autonomy and capacity for free choice, raising critical questions about moral and legal culpability. Given this, the legal distinction between acute and chronic intoxication - still embedded in many criminal codes- appears outdated. Increasingly, legal scholars and clinicians advocate for shifting the focus from assigning blame to providing medical intervention, even mandating treatment where appropriate.

Significant literature (e.g., Lacey & Pickard, 2012) argues against the tendency to generalize neuroscientific findings, cautioning against conclusions drawn from the average capabilities of people with substance dependence. A substantial subgroup of long-term, treatment-resistant addicts may be considered as significantly constrained in their decision-making, lacking real opportunities for self-regulation or access to effective treatment. Holding them fully responsible for conduct stemming from such impairments may be ethically and legally unjustified.

At the same time, suggesting that addiction should offer a full defense for serious criminal behavior - especially where harm to others is involved- is equally untenable. This leads to the pressing question of what alternative dispositions courts should consider.

Lacey and Pickard's concept of "responsibility without blame" offers a compelling framework. They argue that recognizing and engaging the residual agency of individuals with addiction is essential for therapeutic recovery and societal reintegration. However, assigning blame undermines this process by reinforcing feelings of inadequacy and failure. Their approach seeks to preserve the notion of agency while fostering personal responsibility in a non-retributive, forward-looking legal paradigm. This Kantian-inspired model focuses on respect for persons, promoting agency by holding individuals accountable without condemning them.

In conclusion, the assessment of criminal responsibility in cases involving substance abuse remains a complex and nuanced domain that requires careful integration of clinical, legal, and ethical perspectives. The two forensic cases presented underscore the variability in outcomes depending on national legislation, psychiatric evaluation, and the interpretation of diminished responsibility. The comparative international review further underscores the need to harmonize forensic criteria and to foster more effective interdisciplinary dialogue among mental health professionals, forensic medicine experts, toxicologists, and the judicial system. Future directions should include the development of scientifically grounded, evidence-based protocols to guide forensic assessments and policymaking in criminal cases related to substance use.

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