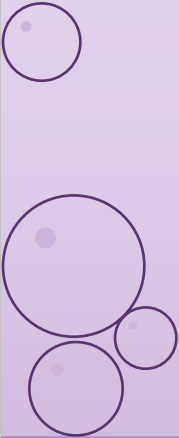
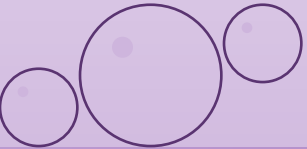


The psychology of Addiction

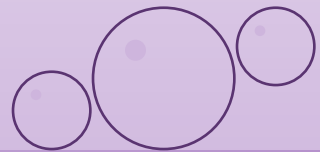


Substance-Related and Addictive Disorders (DSM-5)

- In the revised DSM 5 chapter of “Substance-Related and Addictive Disorders” includes substantive changes to the disorders grouped there plus changes to the criteria of certain conditions.
 - Substance use disorder in DSM-5 combines the DSM-IV categories of substance abuse and substance dependence into a single disorder measured on a continuum from mild to severe.
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- Each specific substance (other than caffeine) is addressed as a separate disorder, but nearly all substances are diagnosed based on the same overarching criteria. In this overarching disorder, the criteria have been combined and strengthened.
- Whereas previous diagnosis required only one symptom, mild substance use disorder in DSM-5 requires two to three symptoms from a list of 11.
- Drug craving was added, but problems with law enforcement are eliminated because of cultural considerations that make the criteria difficult to apply internationally.

The changes

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- In DSM-IV, the distinction between abuse and dependence was based on the concept of abuse as a mild or early phase and dependence as the more severe manifestation.
 - In practice, the abuse criteria were sometimes quite severe.
 - The revised substance use disorder, a single diagnosis, will better match the symptoms that patients experience.
 - Additionally, the diagnosis of dependence caused much confusion. Most people link dependence with “addiction” when in fact dependence can be a normal body response to a substance.



Addictive Disorder

- Gambling disorder is also included as the sole condition in a new category on behavioural addictions.
 - DSM-IV listed pathological gambling but in a different chapter. This new term and its location in the new manual reflect research findings that gambling disorder is similar to substance-related disorders in clinical expression, brain origin, comorbidity, physiology, and treatment.
 - Recognition of these commonalities will help people with gambling disorder get the treatment and services they need and enable others to understand the challenges that individuals face in overcoming this disorder.
- 
- 

Gambling Disorder and Internet Gaming

- While gambling disorder is the only addictive disorder included in DSM-5 as a diagnosable condition, Internet gaming disorder is included in Section III.
- Disorders listed there require further research before their consideration as formal disorders.
- This reflects the scientific literature on persistent and recurrent use of Internet games, and a preoccupation with them, which can result in clinically significant impairment or distress.

- [Inside the brain of a gambling addict - BBC News](#)



Other disorders of interest:

- DSM-5 will not include caffeine use disorder, although research shows that as little as two to three cups of coffee can trigger a withdrawal effect marked by tiredness or sleepiness.
- There is sufficient evidence to support this as a condition, however it is not yet clear to what extent it is a clinically significant disorder.
- To encourage further research on the impact of this condition, caffeine use disorder is included in Section III of DSM-5.





Diagnosis:

- DSM-5 asks us to think of substance abuse and substance dependence as a unified, single entity, diagnosed as a substance use disorder, on a spectrum of mild, moderate and severe.
- Each specific substance is addressed separately, with consistent criteria for the diagnosis of a substance use disorder, intoxication, withdrawal, or substance induced disorders.
- The Substance-Related Disorders are divided into ten categories of substances:

- a. Alcohol
- b. Cannabis, (including marijuana, hashish, wax)
- c. Caffeine
- d. Hallucinogens (including Phencyclidine, Lysergic acid diethylamide, Ecstasy, mushrooms, club, rave drugs)
- e. Inhalants
- f. Opioids (including opiates, heroin, morphine, methadone, narcotics),
- g. Sedatives (muscle relaxers, barbiturates), Hypnotics (sleeping pills), anxiolytics (benzodiazepines)
- h. Stimulants (including cocaine, crack, amphetamines, methamphetamine),
- i. Tobacco
- j. Other (including anabolic steroids) or Unknown substances



Diagnosis

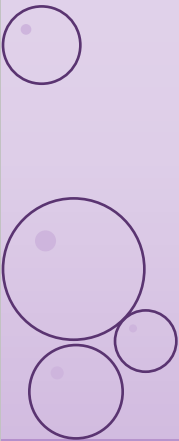
Providing a diagnosis of a SUD under DSM-5 requires the person to have a problematic pattern of alcohol or substance use leading to clinically significant impairment or distress as manifested by at least two of a set of 11 criteria, which have occurred during a 12- month period, either presently or in the past.



Only 10 criteria are used for hallucinogens/ inhalants because they are not considered to generate a specific withdrawal syndrome.



It is preferred to render the diagnosis using the name of the specific substance, rather than the substance category.





Diagnosis

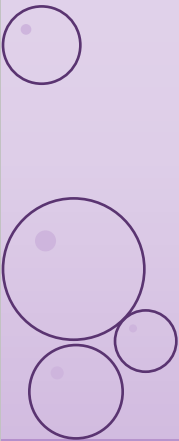
The diagnosis of SUD requires the determination of its Severity and assignment of Specifiers. The levels of severity are determined by the number of criteria that are met.



A patient with a SUD of severity Mild will meet two or three criteria; Moderate – four or five criteria; and Severe – six or more criteria.



If the person does not meet any of the criteria, or only one, then they do not yet meet the DSM-5 definition for diagnosis, but it may be appropriate to think of the person's relationship with drugs or alcohol as being in the “at risk”, “problematic”, or “hazardous” pattern of use.





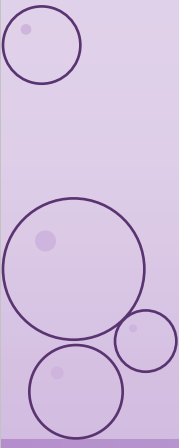
Case Study: Martin

Martin has performed well in his annual exams last semester. Now, he is worried whether he will be able to keep up his performance and score good marks this year.

His parents always tell him how they expect to see him achieve a first. Afraid of disappointing them, Martin does not share his concerns with them.

He feels that some of his friends may be going through the same phase and discusses his problem with them. His friends suggest that smoking marijuana may reduce his stress and help him to relax.

Martin wants to feel better and decides to follow his friends' advice. He starts smoking a joint or two once a week. Without realizing, over a period of six months he was smoking 6-10 joints a week. He is now worried as smoking has become habitual.





Questions:

1. Who is responsible for Martin`s habit and why?



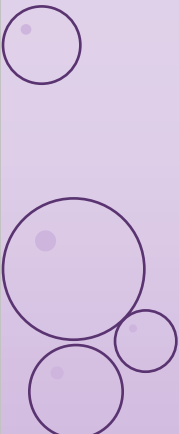
2. Do you think smoking marijuana helped reduce Martin`s stress? Why/not?



3. What else could he have done to reduce his stress ?



4. What role could Martin`s parents` have played to prevent him from smoking marijuana?



Vulnerability of young people



More vulnerable to substance/ drug abuse because of the following reasons:



Lack of basic knowledge about the effects and dangers of consuming drugs/ addictive substances.



Urge to try something new, coupled with peer influence and pressure, make young people vulnerable.



Myths that drugs help overcome boredom, depression, stress and fatigue.



Media images that glamorize substance abuse.



If parents, siblings in the family engage in substance abuse, young people in that family are more likely to start abusing the same or a different substance/s.

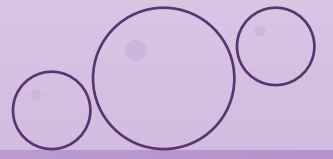
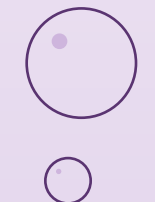


Relatively easy availability of drugs, community norms, and adverse family situations may push young people into substance abuse.



As the attitudes related to smoking, drinking and abuse of other substances are formed during preadolescence and early adolescence, this is an important age to invest in prevention efforts.

Young people





Commonly held myths by young people

There is no harm in trying just drugs once, because you can stop after that.

Drugs increase creativity and make the user more imaginative.

Drugs sharpen thinking and lead to greater concentration.

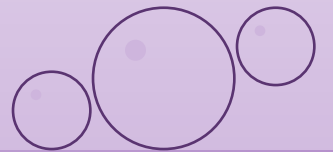
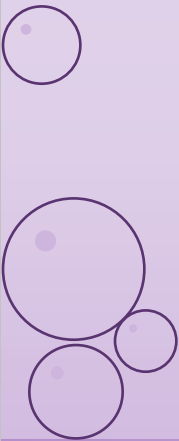
Will power alone can help a drug addict stop taking drugs.



Most of the addicts get their drugs from a peddler or a pusher.

Alcohol helps people forget their problems.

Drug use makes you 'cool' and better accepted by peers.





Effects of SU

Short-term Effects: These are effects that appear only a few minutes after the intake of drugs.

The drug abuser feels a false sense of well-being and a pleasant drowsiness.

Some of the short term effects are distorted vision, hearing and coordination, impaired judgment, bad breath and hangovers.



Drugs have long-term impact that lead to serious damage due to constant and excessive use.

These effects show over a course of time and are usually caused by progressive damage to different body organs.

Substance abuse impairs both physical and mental functioning leading to compromised quality of life.

Several long –term physical ailments, including loss of appetite, stomach ailments, skin problems, liver, heart and central nervous system damage, memory loss etc.

In general drug use weakens the immune system and makes the individual more vulnerable to infection.





Effects...

Drug abuse in itself is not a cause of HIV/AIDS or other diseases, but under the influence, people engage in risk behaviours that make them more susceptible to infection.

Drug abusers may die suddenly from an overdose.

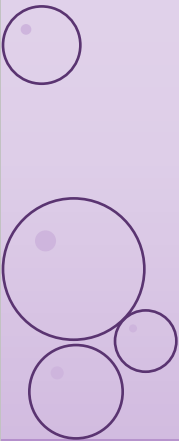
Death may also occur from long-term damage.



Although SU is harmful at any stage of life, these substances are especially harmful if consumed during pregnancy, as the growing foetus is also harmed.

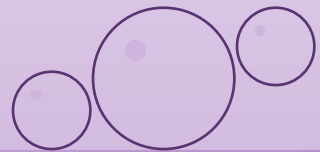
Substance abuse influences not only the individual but their families and communities.

The addict loses interest in other activities/responsibilities.



As a result, they are not able to take care of their responsibilities and become a liability.

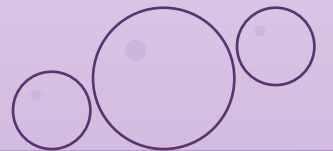
Furthermore, SU is expensive and addicted individuals may be forced to engage in crime.



- 
- **Alcohol** - Affects virtually every organ and system. Following absorption it is eventually broken down by the liver.
 - If alcohol levels rise above 400mg % there is serious risk of coma or death. Legal driving levels are 80mg %.
 - Long term effects are disruptive relationships, blackouts, memory loss, work performance, financial stability and violence.
 - Effects on the body include the pancreas, liver, gastrointestinal, cardiovascular and endocrine systems. Resulting in neurocognitive disorder, poor nutrition, cancer and heart problems.
 - In fact, alcohol is the most detrimental drug over time (Cornelius et al., 2008).



The substances and their effects:





Nicotine is the active substance and is never taken in its pure form.

Short term effects include the increase of heart rate and blood pressure, stimulates the release of norepinephrine producing CNS arousal.

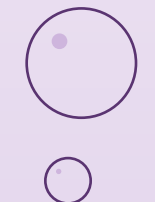
It also stimulates the release of dopamine within the reward systems (mesolimbic pathways).



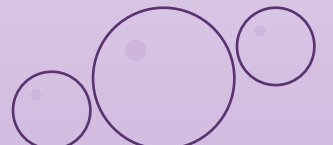
Paradoxically it calms people despite being a stimulant, because low doses stimulate, but high doses relax.



Long term consequences are harmful due to its deadly addictive nature. Withdrawal is as equally difficult as that from heroin (Hughes, 2007).



Tobacco





Amphetamine and cocaine

Psychomotor stimulants-
simulate the effects of
neurotransmitters such as
epinephrine,
norepinephrine,
dopamine and serotonin.

They activate the
sympathetic nervous
system (Constable, 2004)
increasing HR and BP and
dilate blood vessels in
lungs.

They suppress appetite
and sleep and bring
about a positive mood,
from confidence, energy
to euphoria (Jaffe, 1995).

Tolerance develops very
quickly and great
individual differences
exist in terms of
resistance.

Long term use can lead
to psychosis, which
increases with continued
exposure (Bolla et al.,
1998).

The compulsion to
continue can lead to
financial ruin and physical
exhaustion.





Opiates

The active ingredients are morphine and codeine.

Heroin is a synthetic opiate which is made by modifying the morphine molecule.

Opiates induce a dream like euphoria, with increased sensitivity to hearing and vision.

Whilst there is an instant rush, this does not last. After 30-60 minutes a general negative mood occurs to the extent of governing the persons waking life.

High doses can lead to a coma, depressed breathing and convulsions. More accidental deaths are occurring due the abuse of opiod painkillers (Jones et al., 2013).

At low doses, many can function healthily despite their addiction. However tolerance develops quickly and the person becomes preoccupied with sourcing the drug.





Sedatives hypnotics and anxiolytics

Used to reduce anxiety, agitation and promote sleep. They lead to a state of intoxication similar to alcohol and the drowsy state achieved through opiates.



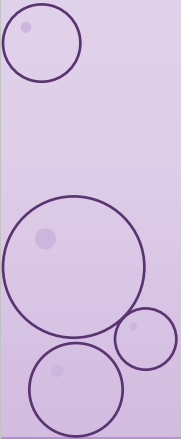
Sometimes use can lead to an aggressive and hostile reaction, known as `rage reaction` or aggressive dys-control.



When stopping their use, discontinuance syndrome can occur, a worsening of the original anxiety symptoms.



Additional new symptoms may occur associated with withdrawal such as paranoia, irritability, muscle tension, restlessness, sleep and perceptual disturbance.





Cannabis

Marijuana and hashish: orally doses will need to be 2-3 times stronger than if smoked as they take longer to absorb.

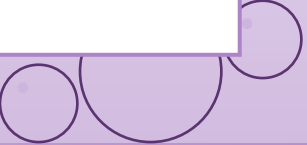
They are metabolised in the liver. Getting high is almost always pleasant, with a pervasive sense of well-being and happiness.

However some individuals can become anxious and paranoid.

In addition, the mood of others around you is important in influencing you. Users are often affected by temporal disintegration and lapses in concentration and memory.

Tolerance effects to THC is ambiguous with some experiencing reverse tolerance.

Prolonged use can lead to neuropsychological deficits in attention, learning and decision making.





Hallucinogens

LSD, psilocybin, mescaline, MDMA and PCP. They cause hallucinations and perceptual disturbances of time and place, with higher doses causing delusions and psychotic behaviour.

The effects are difficult to study objectively since they bring about subjective experiences which are mostly pleasant but occasionally frightening.

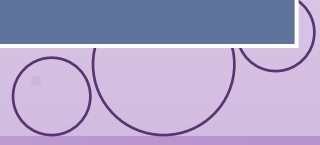
Whilst not toxic, people do die from overdose and PCP is potentially far more toxic, leading to arrest, coma, convulsions and brain haemorrhage.



MDMA damages serotonin neurons permanently (Gold et al., 2001).

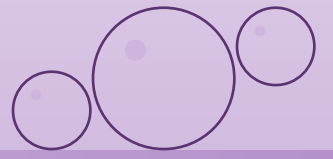
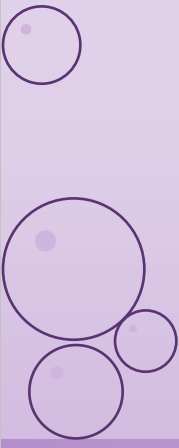
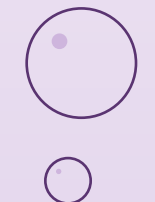
Long term use generally is not problematic and neither are there withdrawal symptoms.

Some people are susceptible to psychosis, but this is likely to be because of a pre-existing vulnerability.





Theories of addiction

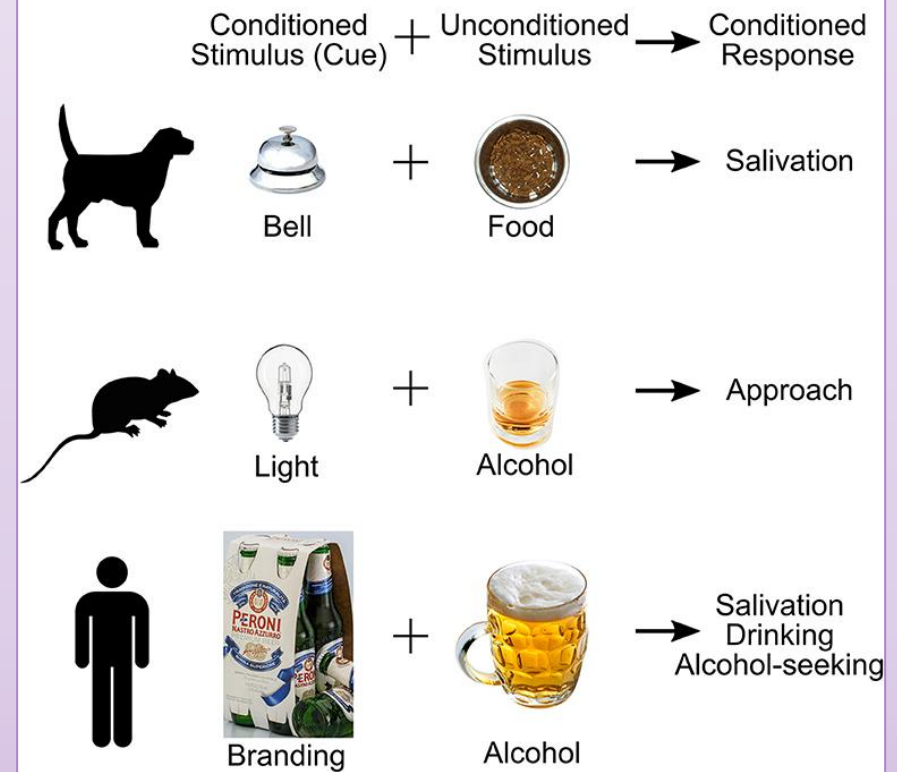


Over the years, psychological principles have contributed to the development of theories about substance use disorders and addiction. Learning theories represent one set of psychological principles that have had a strong influence on our understanding of the causes of addiction, as well as informing some of our intervention strategies. Relevant learning theories include both operant and classical conditioning principles.

Classical conditioning

- The classical conditioning process helps explain why stimuli in the environment or sensations originating from inside the body often trigger a person's craving for a substance.
- Certain areas of the brain may be triggered just by seeing the paraphernalia used to administer a drug, inducing an intense craving for the drug.

Conditioning Works Across Species



Operant conditioning

- This is no different from Pavlov's dogs learning to associate food with the ringing of a bell through classical conditioning and drooling over the previously irrelevant sound.
- The craving trigger stimulus from the environment might involve any of the five senses: hearing, seeing, touching, smelling, or tasting.
- Or, craving may be triggered by familiar internal states (like anxiety, depression, loneliness) that were previously alleviated by taking drugs.

Once a person is addicted, drug use is reinforced by the negative reinforcement of removing or avoiding painful withdrawal symptoms.





Operant conditioning is all about rewards and punishments. A person might use a drug for the first time and enjoy the feelings it creates, which is a positive reinforcement for the behaviour.



Similarly, the person might find that the drug decreases a negative feeling like pain, low mood, or anxiety. This, too, would be reinforcing—what we call negative reinforcement.



These basic learning theories are taken a step further with an understanding of social learning theory. A person does not have to experience the rewards and punishments themselves; learning also happens by watching others engage in the behaviour and seeing what happens to them.



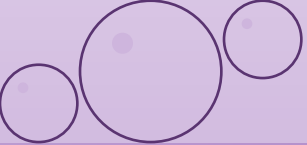
Social Learning Theory

Through observational learning, we learn to imitate both the precise behaviours and general classes of behaviour modelled by others in our social environment.

In other words, a person might not imitate a parent who uses alcohol for relaxation from stress but imitates the general class of behaviour being modelled by using marijuana this way.



This concept leads to another set of psychological principles in addiction: drug or alcohol expectancies. Expectancies are the set of beliefs individuals develop regarding how using these substances might affect them. A person develops expectancies from many sources: other people, television, movies, music, news, social media, and others, including their own personal prior experiences with the drug.





Addiction and cognition

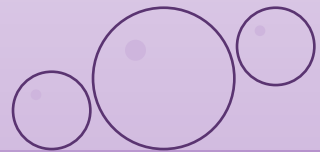
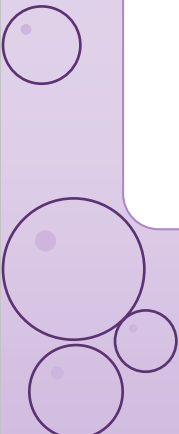


Yet another set of psychological theories address human information processing. This area of **cognitive psychology** explains how substance use can affect the way that a person perceives information from the environment, stores the information as a short-term memory, moves information into long-term memory, and later retrieves information in order to influence behaviour.



Research suggests that when a person learns something while under the influence of a drug, it is possible that they will not be able to retrieve what they learned later, when the person is in a sober state—there simply will not be enough retrieval cues available to trigger the recall.

This information processing framework not only has tremendous implications for how individuals' function when taking psychotropic substances, but also how they often have to re-learn many things once they enter into recovery or quit using after a period of regular use.





There are psychodynamic, attachment theory, and self-medication perspectives about addiction to consider, as well. These psychological approaches suggest that a person uses drugs to fill a void in their emotional lives or as a means of quieting voices of inner conflict. A person might be using the drugs to find relief from physical or emotional pain.

These are called self-medication theories. In this line of thinking, a person uses substances to avoid or blunt their negative or disturbing feelings.



The underlying basis for the pain that is being medicated is usually attributed to trauma—adverse childhood experiences (ACES), sexual or violence trauma as an adult, or other experiences associated with post-traumatic stress.



Self-medicating theories



Physiological models of addiction

Genetics contribute to both vulnerability and resilience for developing a substance use disorder;

Genetics alone do not establish a person's destiny: genetic makeup interacts with environment and experience to determine whether or not a substance use disorder emerges;

There is no single, specific “addiction gene” that applies to all of the different types of substances—genetic susceptibility or resilience appears to be relatively specific to each different type of substance.



Investigators are concerned about the effects of exposure during adolescence /early adulthood. The use of alcohol or other drugs can have profound, lasting effects on the still-developing brain; effects which have significant implications for how people think, behave, and feel, as well as for susceptibility to addiction later in life

The evidence suggests that the earlier a person begins using alcohol or other substances, the greater the likelihood of eventually developing a substance use disorder, because of the interaction between exposure and these brain changes at a critical developmental point.

Finally, consider the fact that a person's overall health and development may be affected by poor nutrition, physical trauma or injury, or exposure to diseases that often accompany substance misuse.



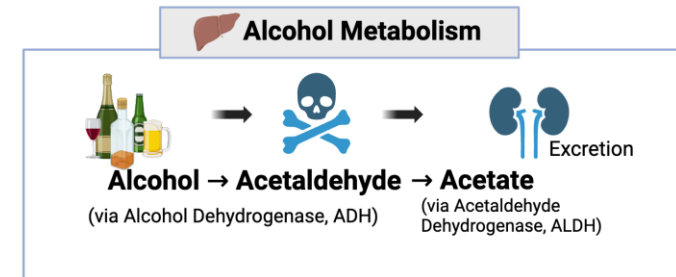
- Initial physiological effects/reactions. 30-50% of Asian descendants unable to tolerate Alcohol. It occurs due to a variant in the ADH and ALDH genes responsible for the metabolism of alcohol (Chen & Yin, 2008).
- The initial point of usage is important in the development of an addiction, but most people who drink alcohol do not develop an addiction. What is the crucial determining factor?
- Lifetime prevalence in parents siblings and children associated with alcohol abuse is 3-5 times higher than the general population (MacKillop et al., 2010).
- The use of twin and adoption studies show that the concordance rates and heritability of alcoholism is around 56% (male) and 33% for females. With two thirds of heritability being accounted for by genetic factors.
- Adoption studies also demonstrate that being reared by an alcoholic parent is not a critical factor. The genes implicated are the ADH and ALDH genes and those for personality (Dick, 2007).

Physiology of addiction

ADH and ALDH

- ADH (alcohol dehydrogenase) and ALDH (aldehyde dehydrogenase) genes encode enzymes crucial for metabolizing alcohol, specifically ethanol.
- These genes are polymorphic, meaning they have different variants (alleles) that can affect how efficiently alcohol is processed, which in turn can influence drinking behaviour and the risk of alcoholism.
- Certain alleles, like ADH1B2 and ALDH22, are associated with a lower risk of alcohol dependence, likely due to increased acetaldehyde levels, which can have unpleasant effects, discouraging excessive drinking.
- These genes don't act in isolation, and their effects can be influenced by environmental factors, individual characteristics, and interactions with other genes.
- The prevalence of different ADH and ALDH alleles varies across populations, contributing to differences in alcohol consumption patterns and alcohol use disorder rates.

Genetics and Alcohol Metabolism



Effect of Acetaldehyde

Flushing (increased skin temperature)

Nausea and headaches

DNA damage (carcinogenic potential)



Genetic Lifehacks
Learn. Experiment. Optimize.

Genetic Variants

- ADH1B converts alcohol to acetaldehyde. Fast conversion can cause a buildup of acetaldehyde.
- ALDH1C converts acetaldehyde to acetate. Slow conversion causes liver damage.



Psychoactive drugs stimulate the `reward pathways` which play an important part in processing emotional reactions, planning and judgement (Koob, 2006), such as the medial forebrain bundle.



Electrical stimulation of this produces positive reinforcement in rats in an operant learning task.



The effects of alcohol on the brain are less clearly understood, but it is believed that GABA neuron activity is decreased, leading to lowered inhibition of dopamine.

Neuroanatomy/ Neurochemistry

Brain Reward: Understanding How the Brain Responds to Natural Rewards and Drugs of Abuse

- Our endogenous opioids (endorphins) are linked to withdrawal and tolerance similar to those associated with exogenous opioids, leading to the suggestion that our opioid system is implicated in mediating alcohol and other dependencies.



The brain and cannabis

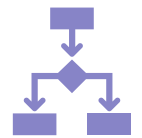
[The brain and cannabis](#)



We are now focusing on a means of integrating the biological, psychological, and social context to inform strategies for better understanding and prevention.



This involves a consideration of **risk factors** and **vulnerability** and also **protective** and **resilience factors**.



Alongside this, we must consider the models of behavioural change –

Theory of Planned Behaviour (TPB)
Health Belief Model
Transtheoretical Model

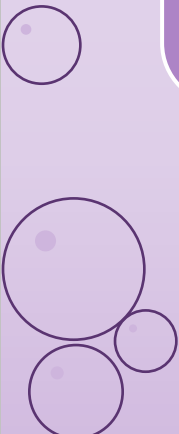


More recently, the focus has changed to:

From traditional psychological theory to a newer approach:



Models of Addiction

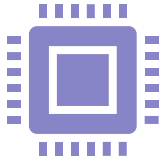


There are two polarised views of addiction, the 'moral' view, emerging from pre-industrial times, is that what we call addictive behaviour represents a free choice, an autonomous choice that we are fully responsible for.



At the opposite extreme is the disease view, beginning in the early 19th century and culminating in the brain disease model of addiction. This conceptualises addictive behaviour as completely involuntary and against the will of the person: addicts do not 'use' because they choose to, but because they are compelled to.





Heather & Segal, (2017) explores the 'middle ground' between completely free choice and no choice. The overall message is the need for a third stage, superseding the moral and disease stages, in our understanding of addiction.



Any task of rethinking must begin with a fundamental definition. For some time, substance addiction has been applied to a wide range of repetitive activities, to the point where it often seems to mean little more than 'something people spend a lot of time doing'.



There are good grounds for seeing some forms of repetitive and harmful non-substance behaviours, like problem gambling, as 'behavioural addictions' – but we need a criterion for distinguishing those behaviours usefully thought of as addictions from those that are not.

A third alternative?

Definitions



'A person is addicted to a specified behaviour if they have demonstrated repeated and continuing failures to refrain from or radically reduce the behaviour despite prior resolutions to do so.' (Heather, 2018).



The resolutions in question can be more precisely defined by adopting Richard Holton's phrase, '**contrary-inclination-defeating intentions**'. (Holton, 2009, p.77).



*These definitions cover what nearly all clinicians in the field would regard as the main difficulty in treating addiction – that an initial change in behaviour is relatively easy to achieve, but the major problem lies in maintaining that change over time. In other words, the **hallmark of addiction is its relapsing nature**.*

Is addictive behaviour compulsive?



The disease view, posits that addictive behaviour is carried out against the will of the addicted individual, leading to the conclusion that addicts should not be blamed or punished for the transgression of legal and social norms associated with their addictive behaviour.



Instead, they receive compassion and treatment. This message is the basis of longstanding communications to the public and policy-makers and is promoted as a mark of enlightened opinion: addiction really is a disease and sufferers can't help behaving the way they do.



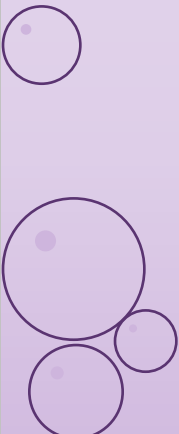
A series of experiments in the 1960s and 70s showed that the drinking of chronic and severe alcohol addicts in institutional settings was **operant behaviour** largely **determined by its consequences**. Rather than being qualitatively different, alcohol addicts' drinking behaviour is subject to the same general laws that govern normal, goal-directed, voluntary behaviour of any sort.



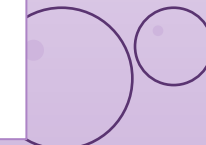
More recently, a demonstration of the power of alternative reinforcers to modify cocaine use in experienced cocaine smokers was carried out by Carl Hart and his colleagues. Their research found that a relatively small amount of money could be effective in persuading the users to reject their choice of cocaine.

As shown by a number of randomised controlled trials, the most efficacious method of treatment for addictive behaviours is contingency management (CM). CM, a behavioural intervention that uses positive reinforcement to encourage desired behaviours, involves providing rewards or incentives for meeting specific treatment goals. It can also include consequences for not meeting those goals. The core principle is that behaviours are shaped by their consequences, and if a behaviour is rewarded, it's more likely to be repeated.

Studies of CM programmes with physicians, airline pilots and other professional groups have reported impressive results, as well as with less privileged groups (DuPont and Humphreys, 2011).



The idea of compulsion also implies that addictive behaviour is inflexible, stereotyped and unreflective but, in her qualitative study of heroin users, Joanne Neale found that her respondents were typically self-respecting and self-determining individuals 'who actively confronted and purposefully responded to external constraints and life opportunities'.



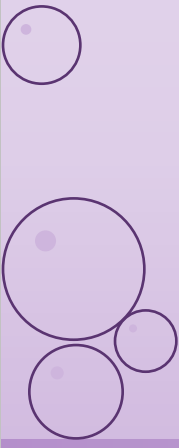


Towards the end of the war, the US government heard reports that a large proportion of American servicemen in Vietnam were addicted to heroin or other drugs.

A team of researchers led by Lee N. Robins was commissioned to interview a large sample of men in Vietnam to determine the extent and characteristics of their drug use, and then to follow them up on their return to the US after discharge in 1971.

Against all expectations, the great majority had simply 'given up' addiction. In the first year after return, only 5 per cent of those who had been addicted in Vietnam were addicted in the US; and despite reports of withdrawal symptoms, 88 per cent had not resumed regular use of opiates at a three-year follow-up.

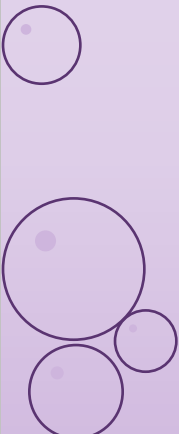
The evidence then contradicts the notion of compulsion in the strong sense of automatic behaviour. Compulsion may have some traction in a weaker sense of the addict's experience of feeling unable to resist powerful temptations to use, but this is not a sufficient condition for relapse to occur, as shown simply by the fact that addicts do occasionally successfully resist.





A Dual System theory?

Unfortunately, neurobiological theories of addiction ignore this evidence. The theory is based upon the assumption that addiction is compulsive due to a chronic brain disease. There seems to be no interest in linking hypothesised brain mechanisms with the large body of observations of the behaviour of human addicts in the real world.



Equally unfortunately, the evidence in question has misled some, to dismiss the concept of addiction itself and to regard it as a myth. Although addictive behaviour is not 'against the will' in any simple sense, it is still a disorder of some kind and there is still something in the addict's irrational behaviour that requires explanation.





One possibility is that addiction is a disorder of temporal inconsistency (Levy, 2006)

Though addicts respond to incentives and are free to choose to engage in behaviour, their autonomy is impaired when their pattern of choices is considered over time.

Someone makes a resolution to refrain from behaving in a certain way but fails to carry it out; when that happens repeatedly, you can describe this pattern of behaviour as addiction.

If you identify the addict's resolution with their will, it is in this sense that addictive behaviour is against the will.

In other words, in respect of their addictive behaviour, addicts cannot effectively extend their will over time.

This is consistent with another view of addiction that sees it primarily as a disorder of self-regulation. The crucial task in the study of addiction is to account for the breakdown of a resolution at the point at which the addict succumbs to temptation. What are the key determinants of this breakdown?





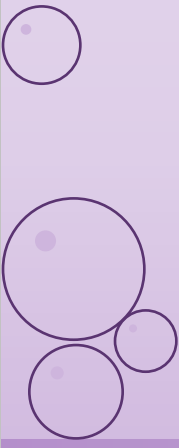
Seeing addiction as a disorder of choice or of self-regulation can be subsumed under the more general proposal that addiction can be explained within the framework of a dual-systems theory of human behaviour and experience.



Though there are different versions of dual-systems theory, they all provide an account of how behaviour can be the result of one of two different systems for information processing and of their interaction – one dealing with implicit, automatic and mainly non-conscious processes and the other with explicit, controlled and mainly conscious processes.



In addiction, the balance between the two systems has become disturbed. Automatic processes, like cue-elicited urges, attentional bias, implicit memory associations and cognitions promote the maintenance of addictive behaviour, while poor goal-directed planning, limited self-control and distorted judgements and evaluations undermine attempts to resist it. The 'common pathway' of overt behaviour has become biased in favour of automatic processes.



In sum, a dual systems theory of addiction is an attempt to understand why we decide whether to 'comply and satisfy, or to deny and abstain'.

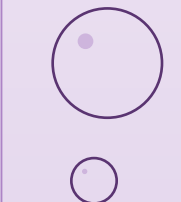
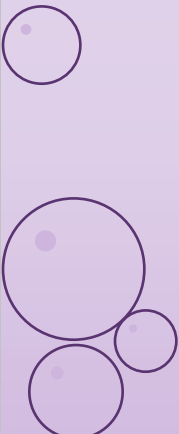


Brains aren't addicted; people are.

There are several limitations to what neuroscience can tell us about addiction. No theory consisting of descriptions of the activity of neurotransmitters, synapses and neural pathways can ever amount to an adequate account of addiction.

To believe otherwise is to be reductionist. We must also consider the explanations in psychological and social terms. The neuroscientist Kalant (2010) notes that the portrayal of addiction as a brain disease has not been experimentally or clinically supported.

Critics of the BDMA fall into two camps: those who maintain that addiction is not just a brain disease, implying that if the psychological, social and cultural influences on addiction were recognised, the notion of brain disease would be acceptable; and those who argue that addiction is not best regarded as a brain disease of any kind. They argue that addictive behaviour is volitional at the time it is carried out; addicts are agents who make choices.





Question:



Is it possible to develop a scientific account of addiction which is neither a disease nor a moral model but one which the public could understand?



The claim the BDMA removes stigma among public or professionals is untrue. That someone's aberrant behaviour is caused by a disease of the brain is surely one of the most stigmatising things one can believe.



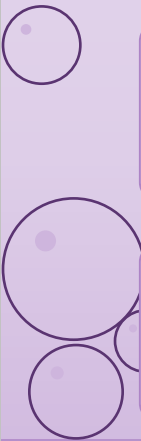
The main advantage of the BDMA is the development of pharmacological substances to correct the brain malfunction responsible for the disease. There is no question that pharmacotherapy has a role to play in addiction treatment.



However, medications for addiction is likely to result in an increase in the over-medicalisation of personal and social problems many fear and it may reduce addicts' chances of recovery by telling them that they are powerless to change without special help.



We therefore need a transformation in communications to the public, one in which they are persuaded to believe that breaking free from addiction is possible and can be successfully accomplished.



So... Psychological and Physiological elements of addiction

Every Illegal Drug Explained in 15 Minutes

