



MODULE OVERVIEW

This module illustrates the way in which drugs are classified in the context of prevention education. This aids understanding of the effects that might be experienced by use of particular drug types.

It extends learning by exploring the interplaying factors outside of the drug that influence a person's drug use experience. It also highlights the impacts of drug use on the developing brain.



LEARNING INTENTIONS

At the end of this module you will:

- have a clear understanding of the effects of alcohol and other drugs (AOD) and the way that they are classified
- be aware that a person's experience of AOD and possible harms resulting from use are impacted by factors beyond just those associated with the drug they take
- understand the possible impacts of AOD use on the developing brain
- know that education around volatile substance use (VSU) should be through a targeted approach and should not form part of the health curriculum
- be clear on where to get further current and reliable information about facts pertaining to specific drugs.



KEY MODULE UNDERSTANDINGS

1.

EFFECTS OF DIFFERENT DRUGS

When it comes to use of AOD those who choose to use them may have certain expectations about how they will feel and what they will experience. This may come from a medical practitioner's explanation, from hearsay, or from previous experience of using a drug. It may also come from understanding the way in which a particular drug affects the body physiologically and/or psychologically.

Some drugs like antibiotics or simple analgesics will affect the functioning of the body but will not impact mood. Others, known as psychoactive or psychotropic drugs, affect mental processes and can influence mood, behaviour, thinking and perception. These are the drugs that are most often used recreationally or to aid coping sometimes leading to misuse and for some, to dependent use.

Drugs can be classified into groups. Whilst these might include type of use (medicinal or recreational), source (plant or synthetic), legal status (licit or illicit) or risk status (hard drugs or soft drugs), these categories can be misleading.

For example:

- some drugs used in medicine may be misused for recreation
- legal status can change over time and can vary from one state or country to another
- the assessment of how 'hard' or 'soft' a drug is may vary greatly from one person to the next.

One useful way of grouping psychoactive drugs is to classify them by considering the primary impact that they have on the Central Nervous System (CNS). Understanding how a drug affects

the CNS can allow more informed consideration by individuals of whether or not to use the drug. Psychoactive drugs can be classified into four categories. These are described in Table 1.

Table 1: Drug categories

DEPRESSANTS

Depressant drugs affect the CNS by suppressing neural activity between the brain and the body. People may use these drugs to feel relaxed and less inhibited.

In small quantities depressants can reduce concentration, coordination and reaction time. Large quantities can lead to drowsiness, vomiting, unconsciousness and even death. On occasion, reduced personal inhibition in relation to alcohol use can lead to some people acting aggressively.

Examples of depressants include alcohol, heroin, codeine, minor tranquilisers and volatile substances eg solvents, aerosols and gases.

STIMULANTS

Stimulant drugs increase neural activity in the brain speeding up the messages between the brain and the body. They increase heart rate, blood pressure and breathing rate and can make a person feel more awake, alert, confident or energetic.

Large quantities of stimulants can cause over-stimulation. This can impair performance and can lead to anxiety, panic, seizures, headaches, aggression and paranoia.

Examples of stimulants include caffeine, nicotine, amphetamine/methamphetamine, cocaine and ephedrine.

HALLUCINOGENS

Hallucinogenic drugs distort a person's perception of reality and can cause them to feel disconnected from their body and environment. People who have taken these drugs might experience hallucinations and imagine that they see, hear or feel things that are not there.

Examples of hallucinogens include magic mushrooms, LSD, ayahuasca (known by young people as DMT), and NBOMe (a new psychoactive substance).

MULTIPLE ACTION

There are a few drugs that commonly have more than one effect on the CNS.

For example, cannabis may have both depressant and hallucinogenic qualities and ecstasy (MDMA) may have both stimulant and hallucinogenic effects. Ketamine can cause hallucinations and also has stimulant, depressant and analgesic properties.



2.

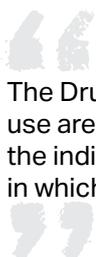
**UNDERSTANDING
THE DRUG USE
EXPERIENCE**

People’s experiences when using AOD will not be the same. The effects and possible harms of drug use vary enormously and are determined by a combination of factors connected to the individual using the drug, the drug/s they choose to use and the environment in which they are using them. The Drug Use Triangle explores this concept.

Diagram 1: The Drug Use Triangle



Source: Zinberg (1984)



The Drug Use Triangle shows how the effects and harms of drug use are determined by the combination of factors connected to the individual, the drug/s they choose to use and the environment in which they are using them.

**NO TO DRUGS
SAFER CHOICES**

WRAPAROUND

DEF: A PHILOSOPHY, A PROCESS, AN APPROACH. AN INTENSIVE, HOLISTIC METHOD OF ENGAGING WITH YOUNG PEOPLE WHO ARE EXPERIENCING ISSUES RELATED TO ALCOHOL OR OTHER DRUG USE.



Understanding that multiple factors will combine and affect the drug use experience can help us to see why a person's experience with a particular drug might be positive or negative. For example:



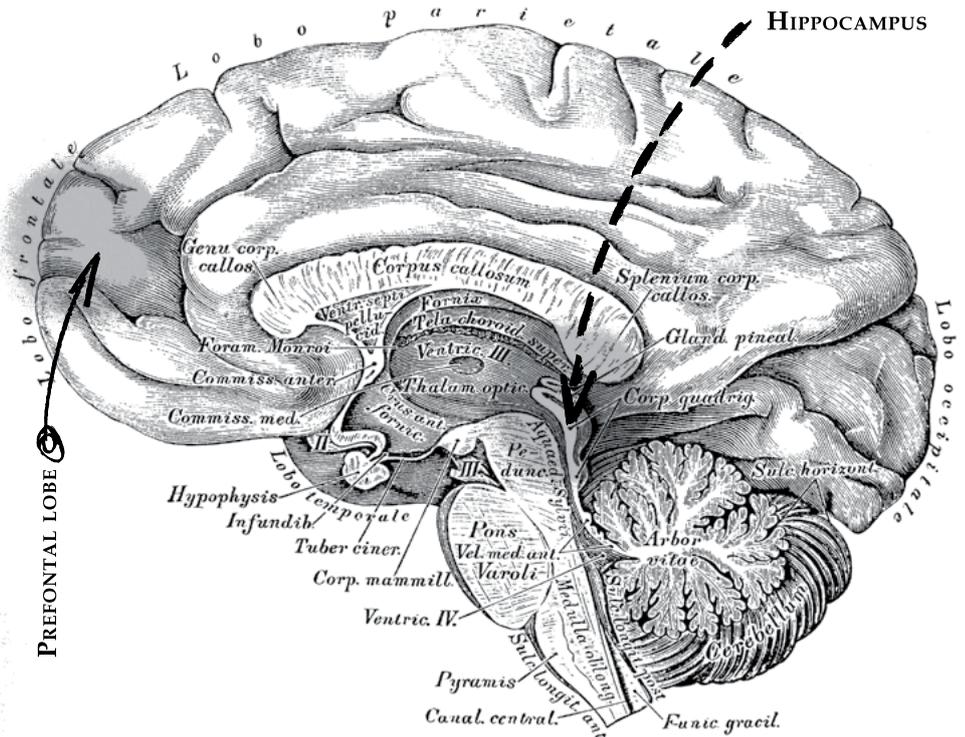
Person 1

One person may be feeling good, spending time with friends and taking a depressant drug (alcohol) makes them feel more relaxed and less inhibited.



Person 2

Another person may be feeling low or stressed and be alone. Using the same drug (alcohol) even in the same quantity could exacerbate their low mood and make them feel more anxious.



3

AOD USE AND THE BRAIN

Different places, moods, experiences, social groups or situations, and varying availability of drug types, will influence a person to decide to take a drug, not to take a drug, to use more or less of a drug, and/or to use more than one drug. The factors influencing this choice may also vary from one day to the next since our moods and circumstances change day to day.

AOD use is complex because it is not just about the drug. What happens when people take drugs can therefore be hard to predict and the impact of a specific drug is much more variable than is often understood. It is important to consider all of these factors when examining the drug use experience and when working with a student to identify and reduce the harms associated with their drug use.

Adolescence is a critical period of brain development and there is increasing evidence to suggest that the adolescent brain may be at particular risk to the effects of AOD use.

Substantial remodelling of the brain occurs during the teenage years where extensive refinement (pruning) occurs in the connections between nerves (cortical synapses) to strengthen optimal functioning. Pruning happens alongside a process called myelination which aids neural conduction and helps the brain to operate efficiently.

AOD use during this period may lead to disturbances in brain development. Increasing awareness of this through education can assist young people to consider the risks of AOD use during this critical period of

development. This may be integral to keeping young people safer through promoting the choice to delay initiation into AOD use and/or to reduce AOD use.

ALCOHOL AND THE BRAIN

There are a number of areas of the brain affected by alcohol during adolescence and in particular:

- the **hippocampus** which is responsible for memory and learning
- the **prefrontal lobe** which is needed for planning, judgement, decision making, impulse control and language.

Alcohol can have a negative impact on a young person's memory and ability to learn and can interfere with problem solving skills and performance at school. It has the potential to affect the body, mood and mental health. Early onset of alcohol use can increase the risk of having alcohol-related problems later in life.



Developmental changes in the brain are now thought to be continuing until the mid-20s and are particularly pronounced in brain regions associated with regulation of emotion and behaviour (Arain et al., 2013).



This visual clip <https://www.youtube.com/watch?v=mo4xBX9H3ls> by Professor Daniel Fatovich discusses the effects that use of methamphetamine can have on the body and the brain.

in a targeted approach and not offered broadly across the school health curriculum. This fits with national and state strategies. The reason for this is to avoid any contamination effect or copy-cat behaviour which could raise awareness among young people of these readily obtainable substances that can alter mood and cause intoxication.

METHAMPHETAMINE AND THE BRAIN

Use of amphetamine type stimulants, including methamphetamine, may also cause particular problems for the brain, including issues with memory, judgment, thinking and mood.

VOLATILE SUBSTANCES AND THE BRAIN

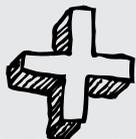
Volatile substances, also known as inhalants, are predominantly used by young people and can cause substantial brain damage. Education on volatile substances must be provided

Strategies considered through this resource and accompanying workshop can assist in working with users of volatile substances. Information on specific interventions will be provided in the Wraparound Intervention Toolkit.



TAKE AWAY MESSAGES

- 1 → Psychoactive drugs affect mood, thinking and behaviour.
- 2 → Psychoactive drugs are the drugs most often used for recreation or to aid coping.
- 3 → To describe the impact on the CNS, psychoactive drugs are classified as depressants, stimulants, hallucinogens or multiple action.
- 4 → Effects and harms of drug use are determined by the interplay of multiple factors specific to the individual, the environment and the drug that is used.
- 5 → Use of AOD during adolescence may contribute to disturbances in brain development.
- 6 → Delaying initiation and reducing drug use can help to reduce risk of harm.
- 7 → Education on VSU should be targeted to known users and not provided through the general health curriculum.



ADDITIONAL INFORMATION

ADDITIONAL SUPPORT INFORMATION RELEVANT TO THIS MODULE

LINKS TO SDERA RESOURCES	EXTERNAL RESOURCES
<p>SDERA About Ice http://www.sdera.wa.edu.au/methamphetamine/fact-sheets/</p> <p>It's not just about the drug http://www.sdera.wa.edu.au/methamphetamine/fact-sheets/</p>	<p>Alcohol.Think Again. What is alcohol? http://alcoholthinkagain.com.au/Alcohol-Your-Health/Strong-Spirit-Strong-Mind/What-is-Alcohol</p>
<p>The following activities could be adapted and used when working with students with drug use issues.</p> <p>CHALLENGES AND CHOICES http://www.sdera.wa.edu.au/resources/secondary-resources/challenges-and-choices-drug-education-resources/</p> <p>YEAR 7 Module 2 – Drug Education Topic 1 Activity 2: What are drugs? Activity 4: The drug use triangle Topic 4 Activity 2: Australian guidelines to reduce health risks from drinking alcohol</p> <p>YEAR 8 Module 2 – Drug Education Topic 1 Activity 2: Drugs – what are they? Topic 3 Activity 3: Identifying harms from alcohol use</p> <p>YEAR 9 Module 2 – Drug Education Topic 1 Activity 2: Drugs – what are they? Topic 2 Activity 1: Use of alcohol by school students</p>	<p>DRUG AWARE Getting the facts – drug types http://drugaware.com.au/getting-the-facts/drug-types/</p> <p>MENTAL HEALTH COMMISSION Volatile Substance Use in Western Australia (Strategies for addressing VSU) https://vsu.mhc.wa.gov.au/</p> <p>MENZIES SCHOOL OF HEALTH RESEARCH Sniffing and the brain https://www.menzies.edu.au/page/Resources/Sniffing_and_the_brain/</p>
<p>DRUG TALK: BODY. MIND. FUTURE. Year 10-12 AOD Resource https://www.sdera.wa.edu.au/resources/secondary-resources/</p>	
<p>WRAPAROUND INTERVENTION TOOLKIT</p>	
<p>WRAPAROUND PROFESSIONAL LEARNING WORKSHOPS</p>	

REFERENCES

- Arain, M., Haque, M., Johal, L., Mathur, P., Nel, W., & Rais, A. et al. (2013). Maturation of the adolescent brain, *Neuropsychiatric Disease and Treatment*, 9, pp. 449-461.
- Zinberg, N. E. (1984). *Drug, set, and setting: The basis for controlled intoxicant use*. New Haven: Yale University Press.

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WRAPAROUND

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