

# HOW DO WE BEHAVE?

(document for teaching staff)

## WORK DYNAMIC

The final result of this session is the formulation of questions that, within the activities of the “Let’s talk about drugs” programme of the “la Caixa” Welfare Project, you will ask Dr. Rafael Maldonado (university chair of Pharmacology at the University Pompeu Fabra). To do this, we have prepared an introduction for you that you must read carefully (better individually) in order to later analyse a series of myths about the effects of drugs. This will to open up a debate amongst yourselves that will make the question-making more productive regarding the subject *How do we behave?*, which you will ask Dr. Rafael Maldonado.

### 1. INTRODUCTION

The different types of drugs in existence have different effects on our nervous system: Some are stimulants and others depressants; some speed up our mental functioning, with the risk of increasing mistakes, and others slow it down or distort it; some create a sensation of euphoria, others produce hallucinations or changes in the perception of reality.

All of them interfere in the normal functioning of our nervous system and cause an alteration in our capacities; they modify our way of thinking, functioning, relating to others and facing up to the challenges of reality. In short, they make us less the central figure of our own lives.

The action of drugs according to the physiology of the brain explains their psychological effects.

These are their immediate effects:

- **Tobacco** produces relaxation, sensation of concentration, premature tiredness.
- The main effects of **alcohol** are: lack of inhibition, euphoria, relaxation, increase in sociability, but also difficult in speaking, difficulty in associating ideas and lack of physical coordination.

The lack of inhibition and false sense of security that alcohol causes are related to traffic and occupational accidents, and to unsafe sexual practices that may lead to sexually transmitted diseases and unwanted pregnancies.

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Moreover, the consumption of alcohol in adolescence, and particularly over-the-top binge drinking, can affect the central nervous system at distinct levels:

- It interferes in the development of the brain, which goes through a critical period of changes during this stage, limiting their future and individual potential. It affects, among others, the cerebral area relating to the memory, learning (hippocampus) and the planning of tasks.
- As a consequence, alterations occur in personal relationships and school performance, with violent behaviour and behaviour dangerous for the health.
- **Cannabis** produces euphoria, lack of inhibition, alterations in perception, slowing down of reflexes and attention, alteration of the memory, as well as difficulties to reason and solve problems.
- **Cocaine** produces euphoria, agitation and hyperactivity, an increase in sociability, feelings of grandeur, verbosity, mental acceleration and false sense of mental agility, decrease in tiredness and sleepiness, and aggressiveness.
- **Heroin** produce euphoria, feeling of wellbeing and pleasure, but also confusion.
- **Ecstasy** causes lack of inhibition, sociability, talkativeness and increase in self-esteem, but also confusion and anxiety.
- **LSD** produces hallucinations, alterations of perception and hypersensitivity.

These are the long-term effects:

- **Alcohol** causes sexual impotence.
- **Cannabis** is associated with disorders of the memory, concentration and learning (this effect is maintained for a long time after it is taken), which results in poor academic results, premature abandoning of studies and failure in professional training and university studies.

It also causes emotional disorders (anxiety, depression) and of the personality. In the case of people who may be predisposed, it can enhance the development of outbreaks of schizophrenia and other mental illnesses.

- **Cocaine** causes great dependency and important neurological and psychiatric disorders: states of paranoia, psychosis and depression, as well as insomnia and lack of sexual appetite.

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- **Heroin** causes lack of inhibition of sexual desire, depression, anxiety and alterations of the personality.
- **Ecstasy** produces, in the hours or days following its consumption, a reduction of certain mental abilities, particularly the memory and the capacity of the individual to process information, which increases the risk of traffic accidents. It also causes a crisis of anxiety, agitation and violent or risky behaviour, as well as depressive disorders and psychotic alterations (flashback with visual and aural hallucinations).
- **LSD** can cause psychotic reactions and of panic; what is popularly known as “a bad trip”, with the risk of suicide, and also flashback: the reappearance of hallucinations without having consumed the drug.

## 2. REFLECTION WORKSHOP

You analyse the following MYTHS and justify, from a scientific standpoint and taking into account that you are working on the subject *How do we behave?*, if they are true or not:

1) “Smoking a cigarette is relaxing and relieves stress”

Tobacco has no relaxing properties given that it is a stimulant. The apparent sensation of relief on smoking a cigarette is due to the suppression of the withdrawal symptoms produced by lack of nicotine in the brain.

2) “Whoever resists alcohol the most is the strongest”

There is no connection whatsoever between strength or virility and “taking their drink” with a greater consumption of alcohol. If one can drink more it can be due to the organism having become accustomed to that amount of drinking.

This means that they have developed tolerance to alcohol, which does not mean that it does them less harm, but that there is a greater risk of becoming dependant and, therefore, an alcoholic.

3) “Cocaine livens you up”

Cocaine has a passing stimulating effect (it lasts between 30 and 60 minutes), after which it produces an intensive downer that causes tiredness, weakening and depression.

4) “Cocaine improves relations with others, since it helps you lack inhibitions”

Its abusive consumption produces irritability and aggressiveness, so that the social relations of the taker deteriorate.

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5) "Sexual relations under the effect of cocaine are more satisfactory"

The regular consumption of cocaine decreases sexual desire and causes erectile and ejaculation problems in men, which can produce impotence and sterility.

6) "All heroin takers are delinquents"

Although it is true that many heroin addicts have committed offences (above all against property) to pay for their habit, not all of them do. Today, the majority of heroin takers who cannot or do not want to give up are in maintenance treatment with methadone. This medicine avoids the syndrome of abstinence and stabilises the opioid receptors of the patient.

7) "Synthetic drugs are inoffensive"

The negative effects that are produced immediately after taking them are recognised by the consumers themselves. Moreover, chronic consumers also admit to serious problems with their physical and mental health, as well as their social lives. The acute reactions through overdoses are relatively frequent. Some are particularly serious and can put in danger the life of the consumer.

8) "The effects of crystal are different to those of ecstasy tablets"

It is the same substance and the effects of taking it will depend on the concentration of the active ingredient, which can vary, in both forms of presentation, both in the dosage and the way of taking it, the context and the expectations of the consumers.

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## 3. QUESTIONS TO ASK DR. RAFAEL MALDONADO

Having analysed the myths, and after a discussion between yourselves, think of 5 or more questions to ask Dr. Rafael Maldonado (remember that you have a scientific focus and that Dr. Maldonado is an expert in neurobiology of addiction):

1)

2)

3)

4)

5)