

## Hypnosis

The following are true, but misleading statements about behaviors people can perform under hypnosis:

People who are hypnotized can become rigid as a board. They can lie flat with only two chairs for support (one at the head, and one at the ankles).

People who are hypnotized will throw water on another person when they are told or shown that it is acid (the acid was later switched without their knowledge).

People who are hypnotized can increase the likelihood that they can recall a memory that was not consciously accessible.

These are true, but misleading statements about hypnosis and cannot be used to support the claim extraordinary abilities that hypnosis can produce.

What does each statement suggest?

What information have you not been told about hypnosis?

## Hypnosis

What information have you not been told about hypnosis?

This feat is easily accomplished without hypnosis—don't try it at home.

Experiments done with a control group show that people in the control group who were not hypnotized performed the same behavior.

In addition to the increased likelihood that you can recall a memory that was not consciously accessible, it increases the likelihood that a person will reconstruct new memories (called pseudomemories) that are inaccurate, making it difficult to distinguish between the two. The person will be confident of the accuracy of retrieved memory regardless of the accuracy.

Without this information from a general and diverse education, it is hard to tell what are the omissions. This occurs quite often in politics to persuade the public into a particular policy.

## What do psychologists know about hypnosis?

### What hypnosis can do:

**Hypnosis can help relieve pain.** This is helpful when chemical painkillers are not an option.

**Hypnotic suggestions concerning sensations are the most effective.** Given the proper instructions, a hypnotized, a person can be made to smell a bottle of ammonia and respond as if it were perfume. It is also possible to alter color vision, hearing sensitivity, time sense, and perception of illusion.

**Hypnosis coupled with cognitive-behavior therapy** enhances the effectiveness of weight-loss programs. Review table 4.4 on page 163 in your textbook for other effects.

Hypnosis can help people:

- relax,
- feel less pain,
- and facilitate progress in therapy.

Hypnosis is more successful in changing subjective experience than changing behaviors such as smoking and eating.

## **What hypnosis cannot do**

Overall, hypnosis seems to increase the confidence a person has in their memories retrieved by hypnosis, regardless if they are accurate or not. More often, hypnosis leads one to recall more false memories (pseudomemories) than enhance their memories—especially with leading questions. It is very difficult to tell the difference between memories accurate and false memories.

Hypnosis has no more effect on physical strength than instructions that encourage a person to make his/her best effort.

A person told not to remember something heard during hypnosis may claim not to remember. In some instances, this may be nothing more than a deliberate attempt to avoid thinking about specific ideas. However, a brief memory loss does seem to occur.

When a person is asked to “regress” to a previous age, it appears on the surface that they are able to do so.

However, most theorists suggest that “age-regressed” subjects are only role-playing. They are unable to “see” the world from a 3-year olds height, or identify the emperor of Japan (if regressed to a 1942 Japanese fighter pilot).

You cannot be hypnotized against your will.

You cannot be hypnotized to commit acts that are not congruent with your core beliefs and values (such as murder)—you can be persuaded to commit acts that are not congruent with your values without hypnosis.

Hypnosis has failed to produce long-term changes in cessation of smoking behavior.

For more information on-line about hypnosis, read the following article from Scientific American that can be found on-line:

Nash, Michael, R. (2001), The Truth and The Hype about Hypnosis, Scientific American, July 2001, url:

<http://www.sciam.com/2001/0701issue/0701nash.html>.

What do you really know about hypnosis section from the above article: url:


<http://www.sciam.com/2001/0701issue/0701nashbox3.html>

What seems to be more amazing than the amazing things hypnosis cannot produce is that 47% of therapists interviewed would have greater confidence in details recalled from hypnosis. Hypnotic effects can be useful, but seldom amazing.

Why do many people believe that hypnosis can produce many effects (such as those listed above), when it cannot?

Like with many pseudoscientific claims, you are given partial information.

Television often incorrectly portrays hypnosis (the real story isn't that exciting or sensational to draw an audience).

The person undergoes hypnosis	Hypnosis produces improved memories and pseudomemories	Assessing the memories: Which memory is real and which ones are false?	Outcome
	<p><b>Enhanced memories</b></p>	Real	Correct (hit)
		False	Wrong (miss)
	<p>Pseudomemories</p>	Real	Wrong (false +)
		False	Correct

## Psychoactive Drugs

Psychoactive drug: a drug that alters consciousness, perception, mood and behavior

Your textbook characterizes four broad categories of psychoactive drugs:

Depressants: drugs that depress or inhibit brain activity such as alcohol, tranquilizers and barbiturates and inhalants.

Opiates: drugs that are chemically similar to morphine and that relieve pain and produce euphoria such as opium, morphine and heroin.

Stimulants: drugs that stimulate, or excite brain activity such as caffeine, nicotine, cocaine and amphetamines.

Psychedelic drugs: drugs that distort sensory perceptions such as mescaline, LSD and marijuana.

Designer “Club” drugs: A loose collection of psychoactive drugs that are popular at dance clubs, parties, and all-night dance parties called “raves” such as ecstasy, ketamine and PCP.

1. What are the psychoactive drugs from chapter 2?
2. What neurotransmitters are probably activated/suppressed with these psychoactive drugs?

## What are the physical effects of alcohol?

For most people, alcohol is not a terribly dangerous drug—but it is a powerful drug and should be treated accordingly. No one would take a powerful antibiotic or heart medication without the advice of a physician. But alcohol is available to virtually anyone who wants to have it without a prescription (Buzzed, page 31)

Low doses of alcohol decrease (inhibits) the sympathetic nervous system (see chapter 2). This has a calming effect and reduces your ability to respond to a situation.

- 40-90% of chronic male drinker reported reduced sex drive. They also showed a reduced capacity for penile erection, decreased semen production and lower sperm counts.

Small doses of alcohol can initially make people feel good, relaxed and sociable. When alcohol is eliminated from the body, these feelings can be replaced with drowsiness. To avoid these withdrawal effects, people may be motivated to drink more to maintain this initial pleasant buzz.

In animal studies, it appears that there is an increase in dopamine levels when the concentration of alcohol rises and not while it is falling, therefore... and risks... (addiction)

Alcohol affects the hippocampus, impairing the ability to form new memories—even in low doses before an exam (it may help you relax (see above), but not remember and learn). Recall of memories already formed do not seem to be impaired.

Alcohol affects the cerebellum, impairing the ability to have coordinated movements, such as walking in a straight line.



Alcohol affects the frontal lobes, depressing activity there, suggesting that...

Alcohol can depress activity of the medulla suggesting that...

Alcohol increases the neurotransmitter GABA (Chapter 2). GABA is an inhibitory neurotransmitter. Large doses of alcohol (binge drinking, doing shots, Everclear Jell-O) can suppress the brain center ( \_\_\_\_\_ ) that controls breathing. Mixing alcohol with other depressants (such as...) can lead to death.

Because the frontal lobes don't fully develop until about age 20, children and adolescents who drink impair their brain functions important for their ability to plan, make complex judgments, think abstractly and control their emotions. In addition, chronic drinkers have difficulties solving complex problems that require the development of new strategies.

Chronic drinking:

Chronic drinkers have more difficulties with word puzzles, and solve geometry and algebra problems.

Chronic drinkers have more difficulties focusing attention and maintaining concentration and usually appear in more challenging situations.

In extreme cases, of chronic alcohol abuse among men, they can begin to lose body hair and develop breast tissue (feminization syndrome).

The life span of the addicted alcoholic is 12 years shorter than average.

Chronic, repeated drinking damages and sometimes kills cells in specific brain areas. The difference between “low” and “high” doses depends on the individual and quite small.

Chronic alcohol abuse impairs

- new memory formation,
- abstract thinking,
- problem solving and
- attention and concentration.

Chronic drinkers have more difficulties with word puzzles, and solve geometry and algebra problems.

- They tend to group objects by concrete characteristics such as size, shape and color, rather than on the basis of their abstract characteristics such as what they are used for or what kind of things are.
- Abstract ideas do not come easy for chronic drinkers. Chronic drinkers have problems switching problem solving strategies when one doesn't work. Binge drinking exacerbates these problems.

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## **Common claims about marijuana**

It is harmless

It leads to harder drugs, such as cocaine and heroin

### **What does the research suggest?**

An argument can be made that marijuana is less harmful than alcohol in that high doses.

- Marijuana does not interfere with respiratory and cardiac functions like depressants and opiates.
- Risk of death from overdose is minimal (marijuana doesn't appear to affect the brain stem).
- However, marijuana does impair the ability to form new memories (recalling memories doesn't seem to be impaired), and impairs motor skills and judgment.

Scientific research does show that people who use hard drugs and heroin also use marijuana. However, one cannot infer that marijuana leads to the use of harder drugs (as Secretary of Human Health Services, Tommy Thompson claims. Association does not necessarily imply cause).

Politicians often repeat this so much that it “sounds true”.

- What information is missing that misleads the public into thinking this latter claim is true?