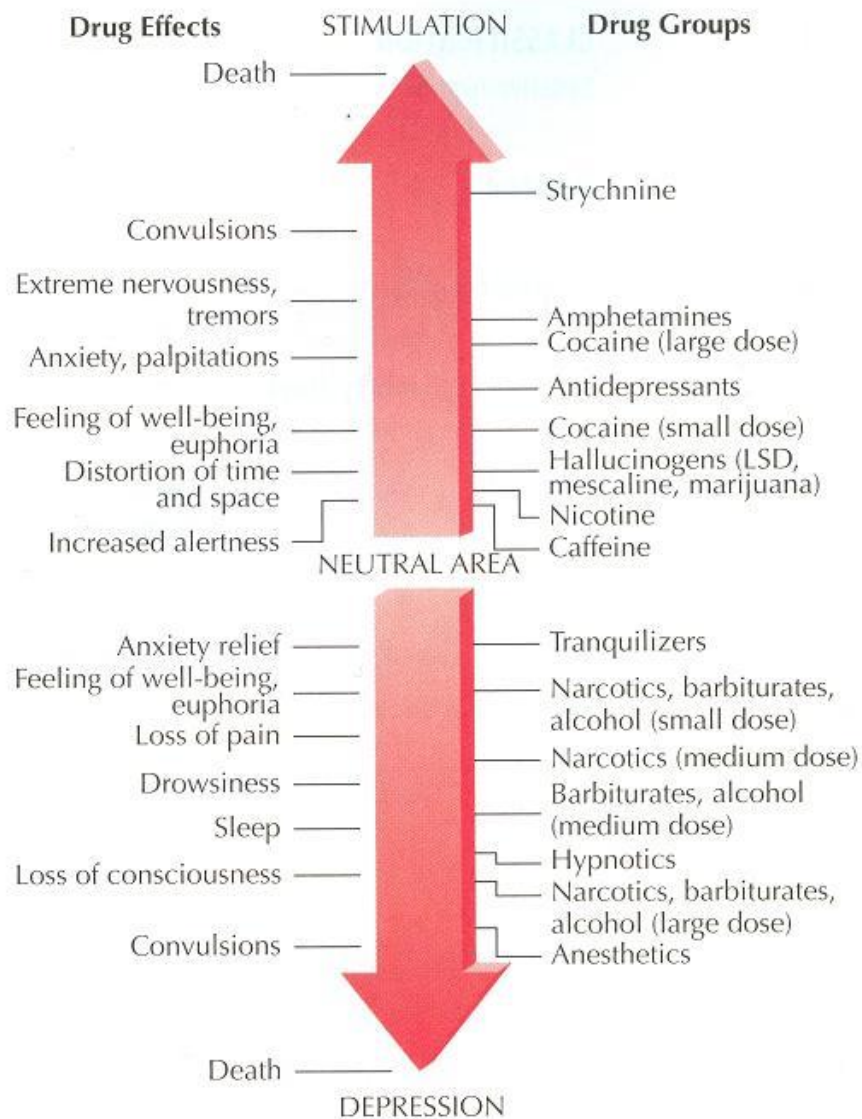


Psychoactive Drugs



Spectrum and continuum of drug action. Many drugs can be rated on a stimulation-depression scale according to their effects on the central nervous system. Although LSD, mescaline, and marijuana are listed here, the stimulation-depression scale is less relevant to these drugs. The principal characteristic of such hallucinogens is their mind-altering quality.

Psychoactive drug A substance capable of altering attention, memory, judgment, time sense, self-control, mood, or perception.

Stimulant A substance that increases activity in the body and nervous system.

Depressant A substance that decreases activity in the body and nervous system.

Physical dependence Physical addiction, as indicated by the presence of drug tolerance and withdrawal symptoms.

Withdrawal symptoms Physical illness and discomfort following the withdrawal of a drug.

Drug tolerance A reduction in the body's response to a drug.

Psychological dependence Drug dependence that is based primarily on emotional or psychological needs.

TABLE 3.1 Commonly Abused Drugs and Their Effects

Drug Category	Effects on the Nervous System	Short-term Effects	Risks (partial list)
Stimulants			
Amphetamine	Increases release of dopamine and decreases reuptake, prolonging effects	Increases energy and alertness	Psychotic reaction, agitation, heart problems, sleeplessness, stroke
Cocaine	Decreases reuptake of dopamine, prolonging effects	Increases energy and alertness	Psychotic reaction, heart problems, crime to pay for drugs, death
Methylphenidate (Ritalin)	Decreases reuptake of dopamine, but with slower onset and offset than cocaine	Increases alertness; much milder withdrawal effects than cocaine	Increased blood pressure
Caffeine	Blocks a chemical that inhibits arousal	Increases energy and alertness	Sleeplessness
Nicotine	Stimulates some acetylcholine synapses; stimulates some neurons that release dopamine	Increases arousal; abstinence by a habitual smoker produces tension and depression	Lung cancer from the tars in cigarettes
Depressants			
Alcohol	Facilitates effects of GABA, an inhibitory neurotransmitter	Relaxation, reduced inhibitions, impaired memory and judgment	Automobile accidents, loss of job
Benzodiazepines	Facilitate effects of GABA, an inhibitory neurotransmitter	Relaxation, decreased anxiety, sleepiness	Dependence. Life-threatening if combined with alcohol or opiates
Narcotics			
Morphine, heroin, other opiates	Stimulate endorphin synapses	Decrease pain; withdrawal from interest in real world; unpleasant withdrawal effects during abstinence	Heart stoppage; crime to pay for drugs
Marijuana			
Marijuana	Excites negative feedback receptors of both excitatory and inhibitory transmitters	Decreases pain and nausea; distorted sense of time	Impaired memory; lung diseases; impaired immune response
Hallucinogens			
LSD	Stimulates serotonin type 2 receptors at inappropriate times	Hallucinations, sensory distortions	Psychotic reaction, accidents, panic attacks, flashbacks
MDMA (“ecstasy”)	Stimulates neurons that release dopamine; at higher doses also stimulates neurons that release serotonin	At low doses increases arousal; at higher doses hallucinations	Dehydration, fever, lasting damage to serotonin synapses
Rohypnol and GHB	Facilitate action at GABA synapses (which are inhibitory)	Relaxation, decreased inhibitions	Impaired muscle coordination and memory
Phencyclidine (PCP or “angel dust”)	Inhibits one type of glutamate receptor	Intoxication, slurred speech; at higher doses hallucinations, thought disorder, impaired memory and emotions	Psychotic reaction