**Hallucinogens**

**Hallucinogens** are substances that alter sensory processing in the brain, causing perceptual disturbances, changes in thought processing, and depersonalization. Most hallucinogens contain nitrogen and are classified as alkaloids. Many hallucinogens have chemical structures similar to those of natural neurotransmitters (e.g., acetylcholine-, serotonin-, or catecholamine-like). While the exact mechanisms by which hallucinogens exert their effects remain unclear, research suggests that these drugs work, at least partially, by temporarily interfering with neurotransmitter action or by binding to their receptor sites. <http://www.drugabuse.gov/infofacts/hallucinogens.html>

Historically, hallucinogenic plants were used largely for social and religious rituals, and cultures have used plants to induce states of detachment from reality and to precipitate "visions" thought to provide mystical insight. <http://www.drugabuse.gov/ResearchReports/Hallucinogens/halluc3.html>

* **Psychedelics**-substances that expand or heighten perception and consciousness
* **Psychotomimetic** -mimics psychosis like symptoms, impairing ability to recognize and respond appropriately to reality

(Hanson, Venturelli, & Fleckenstein, 2009)

**Hallucinogen types:**

**Traditional psychedelics-** organic origins

* LSD-manufactured from lysergic acid which is found in ergot fungus
  + Lysergic Acid Diethylamide
* Mescaline-Peyote cacti, also contains psilocin
* Psilocybin-mushrooms
* DMT-seeds
* Nutmeg-contains myristicin, blocks serotonin

**Phenyl ethylamine Hallucinogens**- Central nervous system stimulants in large d doses, agents that have amphetamine-like molecular structures, possess some stimulant action, variable effects (Hanson, Venturelli, & Fleckenstein, 2009)

* MDA, MDMA, Ecstasy, Ketamine, designer amphetamines
* Dextromethorphan produces dissociative effects similar to those of PCP and ketamine in high doses

**Anticholonergic Hallucinogens-** anticholinergic drus that block some of the receptors for the neurotransmitter acetylcholine.Alkaloid substances that occur naturally in certain plants

* Jimsonweed, Nightshade/ Belladonna, Mandrake
* Long history of use around the world typically in herbs and berries
* Used as love potions, witches brew, toxic drinks

**LSD:** acid, blotter acid, window pane, dots, mellow yellow, lucy in the sky with diamonds

**PCP:** angel dust, ozone, rocket fuel, killer weed, embalming fluid, wack, ozone, zoom

**Mescaline:** Mesc, Peyoto, Buttons, Devil's Weed, Plants, Magic mushrooms

**Ketamine**- an anesthetic, Special-K , Vitamin-K, snorted, sprinkled on marijuana

**Psilocybin-** shrooms, musk, magic mushrooms

**Dextromethorphan** -DXM, Robo

<http://www.abovetheinfluence.com/facts/drugshallucinogens>

Available form of **LSD** which is odorless and tasteless, include liquid, blot paper stamps, gel tabs, pills, powder. **PCP** can be smoked or snorted, mixed with marijuana, was an intravenous anesthetic.

**Neurological (brain) effects**: <http://www.drugabuse.gov/infofacts/hallucinogens.html>

* LSD, peyote, psilocybin, and PCP are drugs that cause hallucinations, which are profound distortions in a person’s perception of reality.
* See images, hear sounds, and feel sensations that seem real but are not.
* Produce rapid, intense emotional swings.
* LSD, peyote, and psilocybin cause their effects by initially disrupting the interaction of nerve cells and the neurotransmitter serotonin.[1](http://www.drugabuse.gov/infofacts/hallucinogens.html#Anchor) Distributed throughout the brain and spinal cord, the serotonin system is involved in the control of behavioral, perceptual, and regulatory systems, including mood, hunger, body temperature, sexual behavior, muscle control, and sensory perception.
* PCP acts mainly through a type of glutamate receptor in the brain that is important for the perception of pain, responses to the environment, and learning and memory.

The precise mechanism by which LSD alters perceptions is still unclear. acts on certain groups of serotonin receptors designated the 5-HT2 receptors, effects the cerebral cortex, an area involved in mood, cognition, and perception; and the locus ceruleus, which receives sensory signals from all areas of the body and has been described as the brain's "novelty detector" for important external stimuli. <http://www.drugabuse.gov/ResearchReports/Hallucinogens/halluc3.html>

**Physiological effects from hallucinogen abuse:**

* **LSD** -may experience some physiological effects, dilated pupils, increased blood pressure and heart rate, raised body temperature, dizziness, loss of appetite, dry mouth, sweating, nausea, numbness, and tremors, Uterine contractions-avoid if pregnant

**Psychedelic effects of hallucinogen abuse:**

* Emotions may shift rapidly through a range from fear to euphoria, with transitions so rapid that the user may seem to experience several emotions simultaneously
* Upsetting everyday problems may trigger “bad” psychedelic “trips”
* Colors, smells, sounds, and other sensations seem highly intensified. In some cases, sensory perceptions may blend in a phenomenon known as synesthesia, in which a person seems to hear or feel colors and see sounds.

**Short term health risks:**

* Trycyclic antidepressants (such as Tofranil or Norpramine) increase **LSD** effects. Mono-amine oxidase inhibitor (MAOI) antidepressants should never be taken alongside **LSD** and other psychedelics (including **Ecstasy/MDMA**) as the combination can provoke severe physical effects.
* High doses of **PCP**-convulsions, coma, hyperthermia, death, anxiety, weight loss(**MDA**), craving
* Negative physical symptoms of **psilocybin** use can include vomiting, muscle weakness, drowsiness, and panic reactions
* <http://www.thegooddrugsguide.com/lsd/faq.htm>

<http://www.whitehousedrugpolicy.gov/DrugFact/hallucinogens/index.html>

* Injury due to high risk behavior, high risk sexual behavior, poor judgment, skewed perceptions, immortality, falling from buildings, vehicles accidents

<http://emedicine.medscape.com/article/833040-overview>

**Long term health risks**:

* Individuals with a family history of **schizophrenia** or early onset mental illness should be extremely careful because LSD is known to trigger latent psychological and mental problems. <http://www.erowid.org/chemicals/lsd>
* **Psychosis**- LSD-induced persistent psychosis may include dramatic mood swings from mania to profound depression, vivid visual disturbances, and hallucinations. These effects may last for years and can affect people who have no history or other symptoms of psychological disorder.
* ***Hallucinogen Persisting Perception Disorder.*** "flashbacks" and called "HPPD", visual disturbances, light flashes, false motion, can last for years <http://www.drugabuse.gov/ResearchReports/Hallucinogens/halluc3.html>

**Signs and symptoms of hallucinogen abuse:**

Heightened senses, loss of control, loss of identity, hallucinations, altered perception of time and distance, high body temperature, electrolyte imbalance, cardiac arrest, nightmare trip, unable to direct movement, feel pain, or remember (Hanson, Venturelli, & Fleckenstein, 2009)

References

Hanson, Glen R., Peter J. Venturelli, and Annette E. Fleckenstein. *Drugs and Society*. 10th ed. Sudbury, MA: Jones and Bartlett Publishers, 2009. Print.

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