

Ch 7 Altered States of Consciousness

Consciousness – a state of awareness

- Altered State of Consciousness – involves a change in mental processes in which one is not completely aware

Sleep – is a state of altered consciousness, characterized by unresponsiveness to our environment and usually limited mobility

1. Why do we sleep?
 - a. Restoration – brain recovers from exhaustion and stress
 - b. Primitive Hibernation – body conserves energy
 - c. Adaptive Process – kept human's out of harm's way at night when they'd be vulnerable to animal attacks
 - d. Clear our minds of useless info
 - i. Sleep to dream
2. Study of sleep is greatly aided by the EEG, which records the electrical activity of the brain
3. Two types of sleep: Active and Quiet
4. Quiet Stages of Sleep
 - a. Stage I – lightest level of sleep, absence of concentrated thought and you are in a state of relaxation (10 minutes)

- b. Stage II – brain waves shift from low-amplitude, high frequency to high amplitude, low frequency (30 minutes)
 - c. Stage III – large amplitude delta waves begin to sweep your brain every second or so
 - d. Stage IV – deepest sleep and its difficult to wake a sleeper in this stage
 - i. Talking out loud, bed wetting, and sleepwalking occur during this stage
 - ii. Important to physical and psychological well-being
5. 75% of sleep is spent in stages I-IV
6. REM (Rapid Eye Movement) Sleep – period of sleep during which the eyes dart back and forth and dreaming usually occurs
- a. Called active sleep – brain sends out waves that closely resemble those of a person who is fully awake
 - b. Lasts about 15-45 minutes depending on time of night, then you work your way back to Stage IV
7. This cycle is repeated every 90 minutes or so

How much sleep?

- 1. Depends on age and the individual
- 2. Everyone sleeps and both types of sleep are important to normal functioning

3. Circadian Rhythm – biological clock genetically programmed to regulate physiological responses within 24-25 (24.18 to be exact) hours

Sleep Disorders

1. Insomnia – inability to obtain adequate sleep
 - a. Caused by mental stress or drug use
2. Sleep Apnea – causes frequent interruptions of breathing during sleep
 - a. 10-15 seconds of snoring followed by a physical movement of the body due to lack of oxygen is one of the most common symptoms
 - b. Primarily affects older people
 - c. Caused by enlarged tonsils, repeated throat or middle ear infections, or obesity
3. Narcolepsy – suddenly falling asleep or feeling very sleepy during the day
 - a. Sleep attacks may occur during the day which are accompanied by brief periods of REM sleep
4. Nightmares – frightening dreams causing individuals to wake-up with vivid memories of dream
5. Night Terrors – occur during Stage IV and results in 5-20 minutes of screaming, sweating, confusion, and rapid heart rate
6. Sleepwalking – walking or carrying out behaviors while asleep with no memory of the activity
 - a. Mostly affects children

Dreams – mental activity that takes place during sleep

1. Everyone dreams and research indicates that it is necessary each night
2. Dreams become more vivid and longer as the night wears on
3. Dreams do not occur in a split second, they correspond to a realistic time scale
4. Everyday activities and common settings (living rooms, cars, classrooms, etc.) are common in dreams
5. Most involve strenuous recreation or sitting and watching
6. Majority of emotions in dreams are negative
7. Freud argued that dreams were an important part of our emotional lives

Hypnosis – a form of altered consciousness in which people become highly suggestible to changes in behavior and thought

1. Very different than sleep
2. Able to focus attention on one tiny aspect of reality and ignore all other sensations
3. Participant is not under the hypnotist's control but can be convinced to do things he or she would not normally do (cooperation)
4. Not everyone can be hypnotized, anyone can resist
5. Psychologists do not agree on the nature of hypnosis, but it does reveal that people often have potential abilities that they don't use

6. Uses of Hypnosis

- a. Posthypnotic Suggestion – a suggestion made during a hypnotic trance that influences the subject's behavior afterward
 - i. Helpful in aiding or enhancing memory and changing unwanted behaviors
- b. Hypnotic Analgesia – a reduction in pain reported by patients undergoing hypnosis

Biofeedback – process of learning to control bodily states with the help of machines that provide info about physiological states

1. Has been used to teach people to control brain waves, heart rate, blood pressure, skin temperature, and sweat-gland activity
2. Basic Principle: feedback makes learning possible
3. Using biofeedback to treat conditions without medications is a very active area of research

Meditation – focusing attention to clear one's mind and produce relaxation

1. Three Major Approaches:
 - a. Transcendental Meditation – involves mental repetition of a mantra
 - i. Sit with eyes closed and meditate twice a day for 15-20 minutes each
 - b. Mindfulness Meditation – focus on the present moment

- c. Breath Meditation – focus on inhaling and exhaling
- 2. Researchers generally agree that most people can benefit from the sort of systematic relaxation that meditation provides

Sec 3: Drugs and Consciousness

Psychoactive Drugs – interact with the CNS to alter a person's mood, perception, and behavior

- 1. Marijuana – dried leaves and flowers of Indian hemp (*Cannabis sativa*) that produces an altered state of consciousness when smoked or ingested
 - a. Sensory experiences are greatly enhanced
 - b. Not physically addictive but can be psychologically addictive
 - c. Can instill or heighten a variety of unpleasant experiences
 - d. Effects lung functioning more so than cigarettes
 - e. Disrupts memory formation making it difficult to carry out mental and physical tasks
 - f. Marijuana users score lower on IQ tests than nonusers

Hallucinations – are perceptions that have no direct external cause – seeing, hearing, smelling, tasting, or feeling things that do not exist

1. Maybe produced by hypnosis, meditation, certain drugs, withdrawal from a drug to which one is addicted and psychological breakdown
2. Also occur during dreaming at night and day and when people are deprived of sleep
3. Periods of high concentration, emotion, or fatigue also cause hallucinations
4. Hallucinations are very much alike from person to person

Hallucinogens – main effect is to produce hallucinations, found in plants that grow throughout the world

1. Also known as “Psychedelics”
2. LSD (Lysergic acid diethylamide) – best known and most extensively studied hallucinogen, also the most potent and is one of the most powerful drugs known
 - a. Produces a “trip” that lasts 6-14 hours
 - b. Often taken in strips of paper or sugar cubes in order to control doses
 - c. Side effects include impaired thinking, panic reactions and flashbacks

Opiates (Narcotics) – opium, morphine, and heroin

1. Use reduces pain, produces feeling of euphoria, can lead to addiction, and death from respiratory failure

Alcohol – most widely abused mind altering substance in the U.S.

1. It is a depressant that serves to inhibit the brain's normal functions
2. Causes people to act without social restraint or social control
3. Permanent damage to the brain and liver and a change in personality can result from prolonged heavy use of alcohol

Drug Abuse & Treatment

1. Drug abusers are those that regularly use illegal drugs or excessively use legal drugs
2. People abuse drugs to change how they feel (bored, to fit in, gain confidence, forget problems, relax, feel good)
3. Greatest risk of abusing psychoactive drugs is loss of control
4. Addiction – overwhelming and compulsive desire to obtain and use drugs
5. Treatment:
 - a. Must admit they have a problem
 - b. Enter treatment program and/or therapy
 - c. Join support group to remain drug free (many relapse)