

Exam 3

Lecture 10: Sleep / States of Consciousness

Consciousness

- To be conscious means to be aware
- Your sensations and perceptions of external events, as well as your self-awareness of internal or mental events
- Altered states of consciousness
 - Sleep
 - Why do we need sleep?
 - It is a biological necessity
 - Leads to problems
 - Sleep deprivation
 - Trouble concentrating
 - Difficulty with motor control
 - Memory problems
 - Irritability
 - And death
 - Susceptible to microsleeps-nodding of, falling asleep for a few seconds
 - At risk for **psychosis**-start seeing things
 - Sleep is thought to restore and repair the body
 - Follows an innate biological rhythm
 - Roughly a 25 hour cycle, follows light/dark
 - **Sleep cycles-EEG**
 - **Awake=beta waves → alpha waves**
 - Stages-waves are shown and
 - Stage 1
 - Light sleep
 - Irregular waves
 - Muscle relaxation
 - Hypnic jerk (snap out of it)
 - Stage 2
 - Sleep spindles
 - Short bursts of brainwave activity
 - Stage 3
 - Delta waves
 - Large and slow
 - Stage 4
 - Deep sleep
 - Dual process hypothesis of sleep
 - **States 1-4-considered non-REM sleep** (NREM)
 - REM sleep-rapid eye movement, associated with dreams fast EEG similar to awake/stage 1 "paradoxical sleep"
 - **NREM**-calms the body down, helps process events of the day

- o REM-thought to sharpen memories, problem solving skills, contributes to brain growth
- REM rebound
 - o Restricting REM sleep, causes massively deep sleep, increased dreams
 - o Imagery, emotion activated
- Sleep problems
 - Insomnia-difficulty falling asleep, staying asleep, or both
 - o Treatment:
 - Sleeping pills
 - Problem: dependence
 - o Behavioral treatments
 - Stimulus control
 - Sleep restriction-strict schedule
 - Paradoxical intention-telling yourself to fall asleep does not work, so just stay up till you get tired
 - Relaxation-breathing and mediation to slow your body down
 - Exercise-if physically tired, it will be easier to fall asleep
 - Sleepwalking (somnambulism)
 - o Other behaviors can occur while sleeping
 - Examples)
 - Sleep talking
 - Sleep sex
 - Nightmares
 - o During REM
 - o Night terrors (different from nightmares)-occur during stage 4
 - Body not immobilized
 - Sleep apnea
 - o Breathing stops for 20s to 2 minutes
 - o Brain stops sending signal to diaphragm to breathe
 - Breathing mask, weigh loss, surgery
 - Narcolepsy
 - o Sudden, irresistible sleep attacks
 - o Fall directly into REM sleep
 - o Treatment
 - Pharmacies drugs
- Dream theory
 - What do dreams mean?
 - o Freud-tried to figure out what dreams mean
 - Psychodynamic theory
 - Wrote Interpretation of Dreams (1900)
 - Key ideas
 - Dream symbols
 - Wish fulfillment

- Manifest vs. latent meaning
 - Example) dream where teeth fall out is a fear of death
- **Activation-synthesis hypothesis**
 - Brain regions turn on during sleep-to figure that out, stored memories used to make sense of it
 - Having people playing tetris and they dream about the pieces-try to synthesize some meaning
- **Neurocognitive dream theory**
 - A lot like thinking while awake, but a little different: persisting cortical activity, minus sensory input, causes dreams-but no specific reason for them
 - Difference from activation: no sensory input
- **Hypnosis**
 - **Anton Mesmer**-1900s
 - "Mesmerize"
 - Original pick up artist (because he was ugly)-tried to pick up women
 - Hypnos means "sleep"
 - **State theorists**-ASC characterized by narrow focus and openness to suggestion
 - **Nonstate theorists**-hypnosis is a blend of conformity, relaxation, imagination, and role playing
 - Properties
 - **Basic suggestion effect**-a tendency of hypnotized persons to do things as if they were involuntary
 - **Hypnotic susceptibility**-how easy you could be hypnotized
 - Clinical uses
 - Relaxation
 - Pain reduction
 - Therapeutic progress
- **Meditation**-focuses attention and interrupts typical flow of thoughts
 - Used to reduce stress, tension, anxiety
 - Functions like parasympathetic nervous system
 - Produces relaxation response
 - Two main types:
 - **Concentrative meditation**-concentrating on a specific point of focus
 - Mindfulness

The effects of drugs

- Two types:
 - **Agonist**
 - Mimics the effects of NTs
 - **Antagonists**
 - Blocks effects of NT's
- Stimulants