Unit 5 Handout
Sleep Stages & Brain Waves

Sleep Cycle

1. Interim between consciousness and sleep
   - Move to Stage 2 after 6-16 mins
   - Heart rate slows, brain does less complicated tasks

2. Body temperature & BP decreases
   - Move into REM sleep approx 90 mins after first feeling sleepy

3. Body makes repairs
   - After another 15 mins, move into non-REM sleep, the Delta stage

4. (3, 2)

BP = Blood Pressure

STAGE 5
Your brain is active and you dream. Your eyes move under your eyelids in RAPID EYE MOVEMENT (R.E.M).

STAGES 1 & 2
You first fall asleep, but are not yet in a deep sleep.

STAGES 3 & 4
You are in a deep, restful sleep. Your breathing and heart rate slow down, and your body is still.

<table>
<thead>
<tr>
<th>Wave</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta (β)</td>
<td>13-30 Hz</td>
</tr>
<tr>
<td>Alpha (α)</td>
<td>8-13 Hz</td>
</tr>
<tr>
<td>Theta (θ)</td>
<td>4-8 Hz</td>
</tr>
<tr>
<td>Delta (δ)</td>
<td>0.5-4 Hz</td>
</tr>
</tbody>
</table>

Time (Secs.)
Dream Theories

Dream Interpretation Theories

- **Wish Fulfillment Theory**
  - Freud’s theory that stated our dreams were our unconscious mind’s way of solving conflicts, fulfilling wishes, dealing with stress, etc.

- **Information Processing Theory**
  - Theory stating our dreams are the mind’s way of processing and organizing each day’s events into meaningful information and memories

- **Activation Synthesis Theory**
  - Theory that states our dreams are simply the mind’s interpretation of the random neural activity that takes place during REM Sleep

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Hypnosis

**What hypnosis is**

A trance-like state of heightened susceptibility to the suggestion of others.

Modern research has shown that it’s not like sleep; the subject is actually alert the whole time. It’s most comparable to daydreaming.

There are several different ways to get a subject into a hypnotic trance:

- Fixed-gaze induction - method often see in movies, when the hypnotist waves a pocket watch in front of the subject. Main idea is to get the subject to focus on an object and “tune out” everything else.
- The popularity of this method is waning, since it doesn’t work on a large percent of the population.
- Rapid – method used to overload the mind with sudden, firm commands. This method is mostly used by stage or entertainment hypnotists.
- Progressive relaxation and imagery – method that uses slow, soothing voice bring on complete relaxation and help the subject to focus which leads to full hypnosis. This method is used most commonly by psychologists.

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**What hypnosis is not**

There are many misconceptions about hypnosis and what it can do. Listed below are some of the most common ones:

1. **Acting out against your will:**
   - People in a hypnotic trance still maintain free will.
   - No one under hypnosis will reveal deep, dark secrets.
   - No one will harm themselves or others while under a trance.

2. **Only weak-minded, gullible people can be hypnotized or that it weakens the mind:**
   - There is no relation between the capacity to be hypnotized and gullibility or intelligence.
   - To be hypnotized, people must be willing and active.

3. **Forgotten childhood memories can be recovered:**
   - At this time, there is no connection between the hypnotic state and accurate memories of past experiences and, in fact, false memories can occur if not handled by a licensed professional.

Also? A person can’t be left in a hypnotic state permanently.

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Drugs

**A Guide to Selected Psychoactive Drugs**

<table>
<thead>
<tr>
<th>Drug</th>
<th>Type</th>
<th>Pleasurable Effects</th>
<th>Adverse Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>Depressant</td>
<td>Initial high followed by relaxation and disinhibition</td>
<td>Depression, memory loss, organ damage, impaired reactions</td>
</tr>
<tr>
<td>Heroin</td>
<td>Depressant</td>
<td>Rush of euphoria, relief from pain</td>
<td>Depressed physiology, agonizing withdrawal</td>
</tr>
<tr>
<td>Caffeine</td>
<td>Stimulant</td>
<td>Increased alertness and wakefulness</td>
<td>Anxiety, restlessness, and insomnia in high doses; uncomfortable withdrawal</td>
</tr>
<tr>
<td>Methamphetamine (“speed,” “ice”)</td>
<td>Stimulant</td>
<td>Euphoria, alertness, energy</td>
<td>Irritability, insomnia, hypertension, seizures</td>
</tr>
<tr>
<td>Cocaine</td>
<td>Stimulant</td>
<td>Rush of euphoria, confidence, energy</td>
<td>Cardiovascular stress, suspiciousness, depressive crash</td>
</tr>
<tr>
<td>Nicotine</td>
<td>Stimulant</td>
<td>Arousal and relaxation, sense of well-being</td>
<td>Heart disease, cancer (from tars)</td>
</tr>
<tr>
<td>Ecstasy (MDMA)</td>
<td>Stimulant; mild hallucinogen</td>
<td>Emotional elevation, disinhibition</td>
<td>Dehydration and overheating, depressed mood and cognitive functioning</td>
</tr>
<tr>
<td>Marijuana</td>
<td>Mild hallucinogen</td>
<td>Enhanced sensation, relief of pain, distortion of time, relaxation</td>
<td>Disrupted memory, lung damage from smoke</td>
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