

Advanced Placement Psychology

Chapter 7: States of Consciousness

(<http://www.ApPsychology.net>)

- During the mid-century, the study of consciousness in psychology ceased. But by 1960, new advances in neuroscience permitted the study of mental states again.
- **Consciousness** is a vague concept that is usually defined by psychologists as *the awareness of our environment and ourselves*.
- *Subconscious processing* - processes different information simultaneously (*Parallel Processing*)
- *Conscious processing* – processes different information sequentially (Serial Processing), much like passing stages in law making; thus making Conscious processing slow.
- **Everyone fantasizes**. Fantasizing (day dreaming) may help reduce stress, increase creativity, and even prepare for future events.
- But some 4% of the population fantasize so vividly that they have a **Fantasy-prone personality**. As adults they spend more than half their time fantasizing, which eventually leads to difficulties sorting fantasy from reality.

Sleep and Dreams

- Facts: **Everyone dreams, the difference lies in whether they remembered it or not; Sleepwalkers are not acting out their dreams; Sleeplessness have little affect on motivating tasks.**
- **Circadian rhythm** is our “Biological clock” that runs on a 24-hour day cycle. But isolated individuals without clocks or daylight usually adopt a 25-hour day cycle. And if we experience jet lag from travelling, our biological clock will reset to adapt.
- After about 1.5 hours of sleep, our eyes start to move rapidly and jerky accompanied by increased brain activity. This is called **REM sleep (Rapid Eye Movement)**.
- *The only time you dream is if you're in REM sleep, but you can be in REM sleep and not dream.*
- Stages of Sleep:

Firstly, before you sleep, you lie in a relaxed state with slow **alpha waves** showing on the EEG.

STAGE 1 – (2 minutes) You experience **hallucinations** (experiences without real stimuli) such as *hypnagogic* sensations (floating weightlessly, knee jerks, etc.)

STAGE 2 – (20 minutes) You are now actually asleep. Your brain shows periodic bursts of activity called *Sleep Spindles* and “sleep talking” could start now or any stage after this.

STAGE 3 – (~15 minutes) Your brain starts showing large and slow **delta waves** at which you are hard to wake.

STAGE 4 – (~15 minutes) You are now in deep sleep and the brain shows even more delta waves. Bed-wetting and sleep walking can occur.

- After stage 4, your brain goes back to stage 3 then stage 2 then you enter into an excited state – REM sleep (paradoxical sleep) After REM, your sleep goes back to stage 2 and the cycle starts again. Except that REM periods get longer over the night and stage 4 and 3 don't happen in the couple of hours before you wake.
- Sleep-deprived effects include: suppressed immune systems, decreased creativity, slight hand tremors, slow performance and misperceptions on monotonous tasks. **BUT a sleep-deprived person does as well as anyone on highly motivating tasks (running, arcade games, boxing)**
- Sleep helps us regenerate ; our tissues are restored, energy is conserved, and growth hormones are released from pituitary

Sleep Disorders

- **Insomnia** – Difficulty falling or staying asleep. *REM sleep deprived one day, makes REM sleep longer on the next (REM Rebound).* **Narcolepsy** – Suddenly falling asleep (very dangerous, especially when driving). **Sleep Apnea** – Suddenly stopped breathing when asleep (mostly overweight men) that would automatically wake you. **Night Terrors** – This is not nightmare; when one experience **night terrors**, terrified appearances are observed and **only happens during 2 or 3 hours of sleep in stage 4**. The next morning the person hardly remembers what happened. *In contrast, nightmares happen in REM Sleep near the morning.*

Dreams

- Using Freudian terms (depicted by Sigmund Freud), **Manifest content** – what we remembered the dream to be. This is only the “cover up”; underlying every dream is its true meaning called **Latent content** – our unaccepting subconscious thoughts and drives.
- One explanation for dreaming is because dreams organize our thoughts and facilitates memory; at the same time dreaming provides constant neural stimulation that preserves our neural pathways.
- Seligman and Yellen (1987) proposed another theory that says dreams are random bursts of activity from the brainstem and the brain tries to make sense of it; thus hallucination images are produced in dreams.
- When we dream the *amygdala* in the *limbic system* of the brain is most active (producing emotions).

Hypnosis

- **Hypnosis** is a state in which you are under the influence of the hypnotist. He/she may suggest to you that certain behaviors will automatically happen and you, under his/her influence (depending on your degree of susceptibility), will do exactly what is said.
- Hypnosis could be so powerful that the hypnotist can induce **Posthypnotic amnesia**, temporary not remembering what happened during the hypnosis, as well as **Posthypnotic suggestion** – told during the hypnotic session, the suggestion is to be carried out when you are not hypnotized. For example, “After the count of three, you are to awaken and from now on approach every situation with a positive attitude.”
- *Hypnosis can relieve pain and heal soars but it cannot give you super-human abilities; what you can do in hypnosis, you can also do in normal conscious states (with a little positive encouragement)*
- Hypnosis relieves pain with a **dissociation** method (*divided consciousness theory*) that involves a split (dissociate) between levels of consciousness. Such as splitting the sensation of pain from emotional pain, so your skin might register the pain but you won’t feel the suffering.
- Another method is described by the *Social influence theory*, where the subject of hypnosis is merely caught up in “playing his/her role” so that he/she could ignore the pain.
- Since hypnotized people report less pain when their arms are placed in ice water, Ernest Hilgard decided to test if a part of them realizes the pain. So, when he asked them to press a key if “some part” of them felt pain, they press the key. So there must be a **hidden observer**, a split consciousness that involuntarily knows what is happening.

Drugs and Consciousness

- **Psychoactive drugs** – chemicals that change how you think and feel and usually produces a **tolerance** – using larger and larger doses to experience the same effect. If this happens, quitting will be very difficult because of unpleasant **withdrawal** effects that indicate a **physical dependence** and a **psychological dependence** on the drug.
- **FACTS:** Using drugs medically more often don’t cause addiction; addiction is *not* like a disease and can be overcome voluntarily (without therapy); being addicted to something is not an excuse to be sympathized, you are responsible for your actions.
- **Depressants** (drugs that slow and calm neural activity):
 - **Alcohol** – Impairs judgement and inhibitions and prevents recent events to go into long-term memory. Also, people who are made to believe they are drinking alcohol exhibited less sexual restraints.

Barbiturates – (tranquilizers) This drug is similar to alcohol because it lowers activity in Sympathetic nervous system. Large doses of barbiturates can cause death.

Opiates – (**Morphine** and **Heroin**) Opium derivatives that depress brain activity and brings pleasure with addiction; ultimately leading to death. The pain of withdrawal is accompanied with these drugs because the brain stops producing its own endorphins and becomes dependent on it.

- **Stimulants** (drugs that speed up and excite body activity):

Caffeine, nicotine, Cocaine, and amphetamines – Increasing heart and breathing rates that boost mood or athletic performances. After the drug wears off, the user will experience a “crash” that involves headaches, tiredness, grouchiness, and even depression. Of them, Cocaine is the most powerful stimulant in that it blocks re-uptake of dopamine neurotransmitters. Thus, dopamine remains in the synapse to intensify moods.

- **Hallucinogens** (Drugs that create distorted perceptions and thoughts without real stimuli):

LSD (PCP) – “acid” that makes you see shapes, colors, and even out-of-body experiences accompanied by various emotions.

Marijuana – Drug containing an organic compound called **THC** that can cause relaxation, euphoric high, and increases sensitivity to colors, tastes, and sounds. Adverse effects, however, include impaired judgement, lung damage, disrupted memory, decreasing reaction time, and lowering sex hormones.

- *Contrary to popular belief, African American high school seniors report the lowest rates of use for all drugs* (Johnston & others, 1994, 1996).
- **Near-death experience** is a state of consciousness reported after being close to death. These same experiences, such as seeing bright tunnels, are often experienced from LSD (drug hallucination) or oxygen deprivation.
- **Dualism** presumes that the mind and body are two distinct parts that usually separate after death. **Monism**, however, presumes that the mind and body are just different aspects of the same thing and that we cannot exist without our bodies.

Bibliography

Myers, David G., Psychology Fifth Edition. Worth Publishers, Inc. New York, NY ©1998