

Use sleep deficit survey

### Consciousness

**Consciousness** is defined by psychologists as the awareness of ourselves and our environment .

There is a distinction made between **Subconscious processing** (processing different information simultaneously; **Parallel Processing**) and **Conscious processing** in which information is processed sequentially (**Serial Processing**).

*"The conscious mind may be compared to a fountain playing in the sun and falling back into the great subterranean pool of subconscious from which it rises."*  
Sigmund Freud

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### Daydreams and Fantasies

Everyone fantasizes. Fantasizing or daydreaming may help reduce stress, or help us to "practice" for future events (adaptive).

4% of the population fantasizes 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

**Circadian rhythm** is our "Biological clock" that runs on a 24-hour day cycle. Yet, isolated individuals without clocks or daylight usually adopt a 25-hour day cycle. And if we experience jet lag from traveling, our biological clock will reset to adapt.

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### Stages of Sleep:

When you are awake, your brain emits **beta waves**. Just before you sleep, you lie in a relaxed state and slow **alpha waves** show up on the EEG.

**STAGE 1** - (2 minutes) you experience **hallucinations** (experiences without real stimuli) such as hypnogogic 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, sleepwalking or night terrors may occur.

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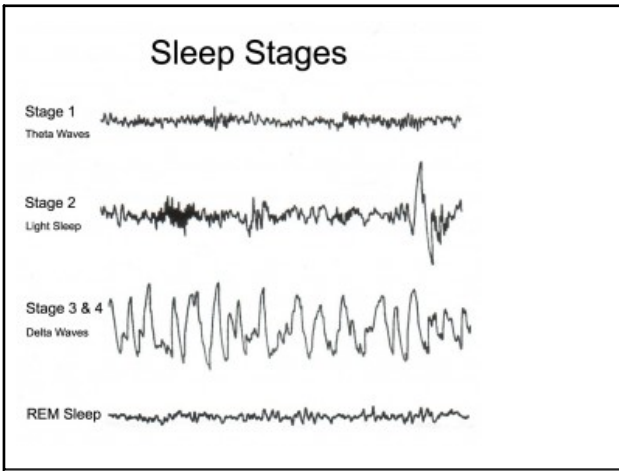
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After stage 4, your brain goes back to stage 3 then stage 2 then you enter into an excited state - **REM sleep (paradoxical sleep)**. After about 90 minutes of sleep, our eyes start to move rapidly, muscle tone is lowered and one may have jerky movements. This is accompanied by increased brain activity. This is called **REM sleep (Rapid Eye Movement)** at which time dreaming occurs.

**NOTE:** REM does **not** follow stage 4 sleep instead it **replaces** stage 1 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 no longer occur in the couple of hours before you wake, you seem to fall back and forth from REM and stage 2 sleep.

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**Sleep-deprivation** may lead to the following effects:  
 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)

The purpose for sleep appears to be to help us regenerate. At that time, our tissues are restored, energy is conserved, and growth hormones are released from the pituitary gland.

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Sleep Disorders  
Some of the most common sleep disorders are:

1. **Insomnia** - This is when one has great difficulty in falling or staying asleep. If you are deprived REM sleep for a day, your body will make up for it in that makes REM sleep will be longer on the next day's sleep (**REM Rebound**).
2. **Narcolepsy** - This is when one suddenly falls asleep without warning It is obviously very dangerous, especially when driving.
3. **Sleep Apnea** - This disorder is marked by severe snoring and more importantly, a sudden stop in breathing when asleep that would automatically wake you. This occurs more often in overweight men and can be treated by a variety of means.
4. **Night Terrors** - These are not nightmares. When one experiences night terrors, they appear terrified but do not remember the ordeal the next morning. It occurs after 2 or 3 hours of sleep and while the person is in **stage 4** sleep. The next morning the person hardly remembers what happened. In contrast, **nightmares happen in REM** Sleep usually early in the morning.

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Dreams


Sigmund Freud was very interested in the process of dreaming and felt that a dream provided a safe haven in which a person could "deal" with otherwise unacceptable feelings. He believed that a dream has **Manifest content** - what we remembered the dream to be. This is only the "cover up"; underlying every dream is its true meaning, something Freud labeled **Latent content** - our unacceptable subconscious thoughts and drives.

<http://www.dreammoods.com/>

<http://www.dreammoods.com/dreamdictionary/>

<http://www.youtube.com/watch?v=X0h2nleWTwI>

<http://www.youtube.com/watch?v=70jFzlxCnZA>



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