

Science of Psychology

PSY W1001 Section 2
MW 8:40-9:55 Fall 2012



Wednesday, September 26
Sensation and
Perception

Announcements

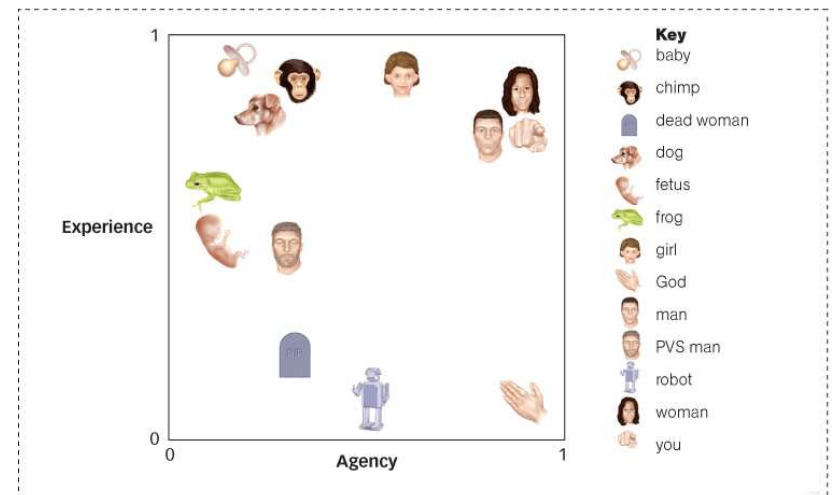
- Exam #1 one week from today
 - Please read Exam Policies posted on Courseworks
- Q&A Sessions
 - Sunday and Monday
 - Please post questions on discussion area
- Any questions from last lecture?

Consciousness



Consciousness

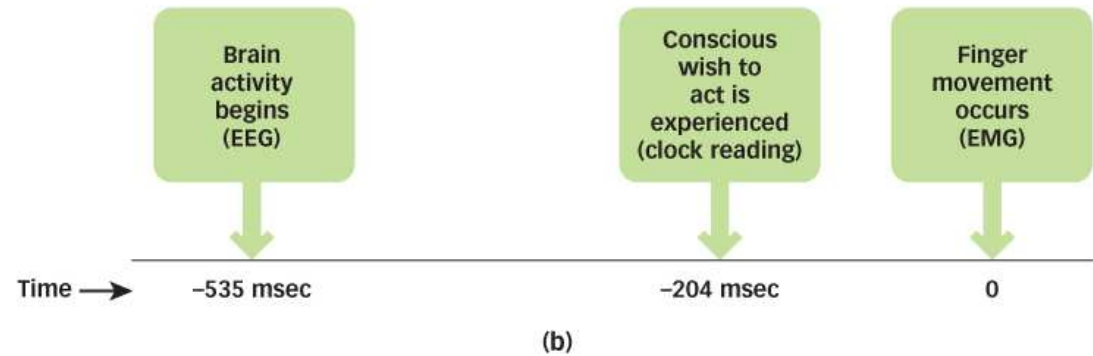
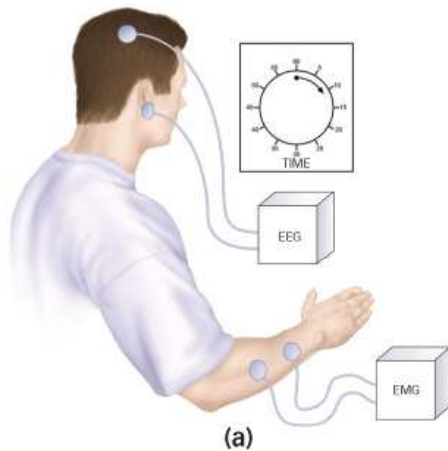
- Consciousness
 - subjective experience
- Phenomenology
 - how things seem to the conscious person
- Problem of other minds
 - difficulty in perceiving the consciousness of others
 - People judge minds according to the capacity for experience and agency.



The Nature of Consciousness

- Four basic properties:
 - Intentionality: being directed toward an object
 - Unity: resistance to division
 - Divided attention
 - Selectivity: the capacity to include some objects but not others
 - Dichotic listening: a task in which people wearing headphones hear different messages presented to each ear
 - Cocktail party phenomenon: people tune in one message even while they filter out others nearby
 - Transience: the tendency to change

What comes first?

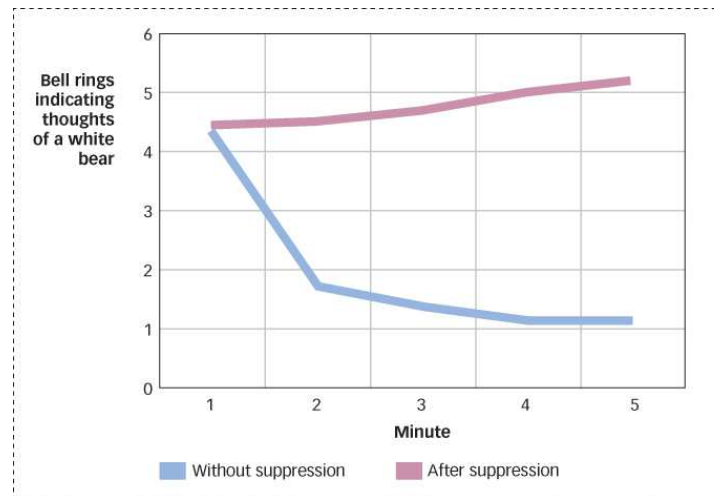
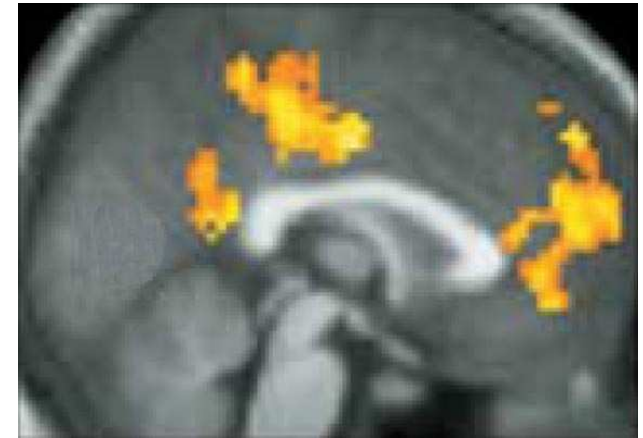


Levels of Consciousness

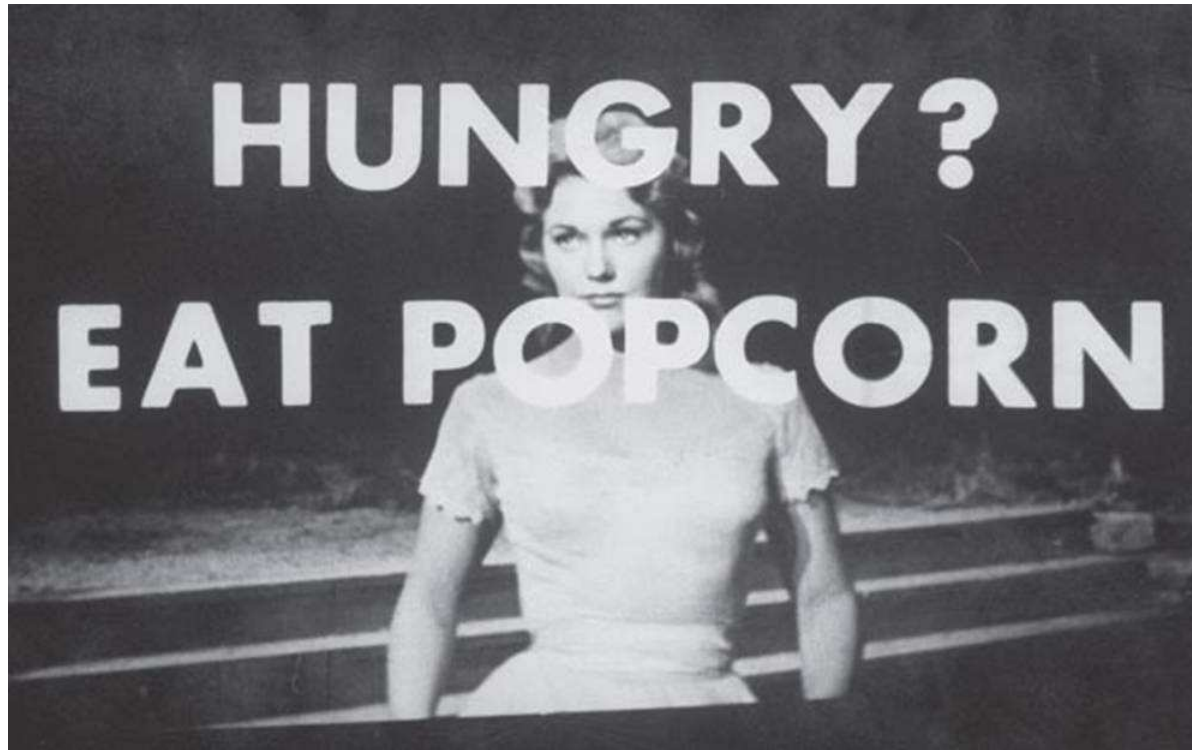
- Minimal Consciousness
 - Sensory awareness and responsiveness
- Full Consciousness
 - You know and are able to report your mental state
- Self Consciousness
 - Your attention is drawn to the self as an object
 - ~ Recognition of self in mirrors by humans and other animals

Conscious Contents

- Experience sampling technique.
- The default network.
- Mental control
 - Ironic processes of mental control
- Thought suppression
 - Rebound effect

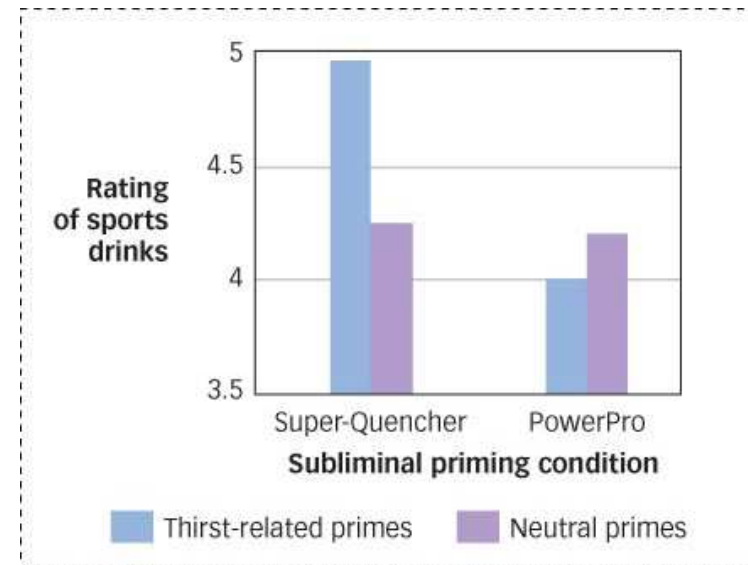
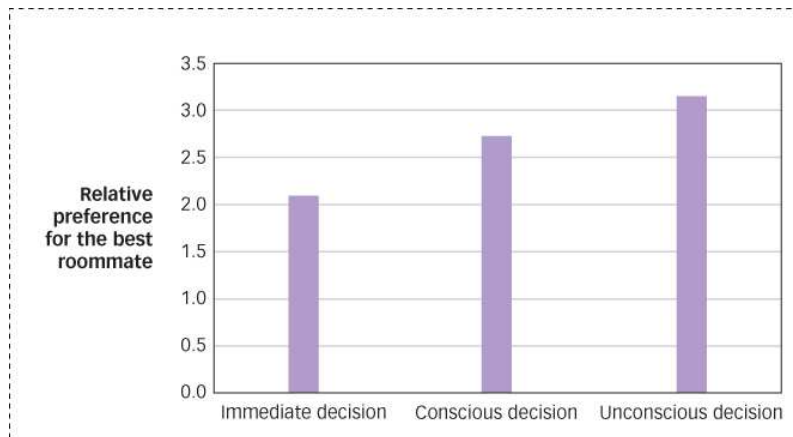


Subliminal Messages



What DOES work?

- Priming
- “Gut” decisions
- WARNING WARNING!!



Altered Consciousness



Sleeping pills for the comatose

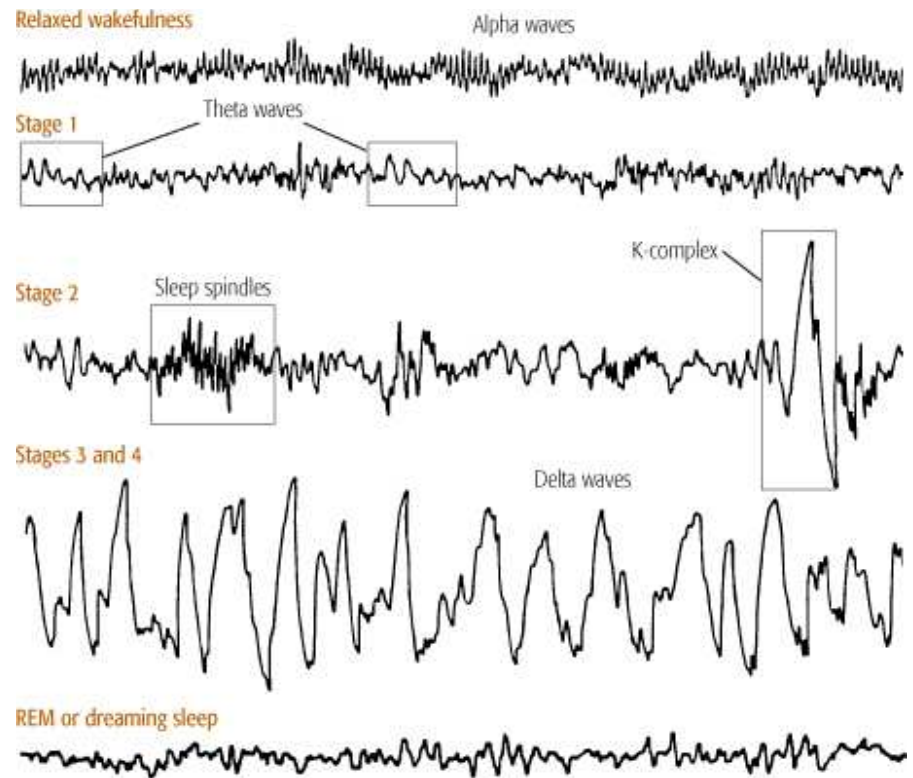
- Ambien and coma
 - Evidence for increased function
- “Awakenings”
 - Not the same thing

Sleep Behavior

- Definition
 - Altered state of EEG activity characterized by inactivity, and decreased arousal
- SWS versus REM

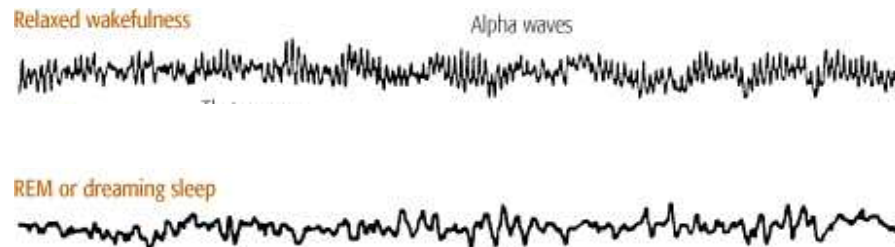
Characteristics of SWS

- Awake – Desynchronized EEG
- Stage 1 sleep - Alpha rhythm - regular oscillation of 8 to 12 hz
 - Slowed heart rate and respiration, decrease in muscle tension
 - Unaware of having been asleep
- Stage 2 sleep - sleep spindles - bursts of 12-14 hz waves
 - Unresponsive to external stimuli
- Stage 3 sleep - delta waves large amplitude, 1 per second
 - Delta waves mixed with sleep spindles
- Stage 4 sleep
 - Delta waves at least half the time



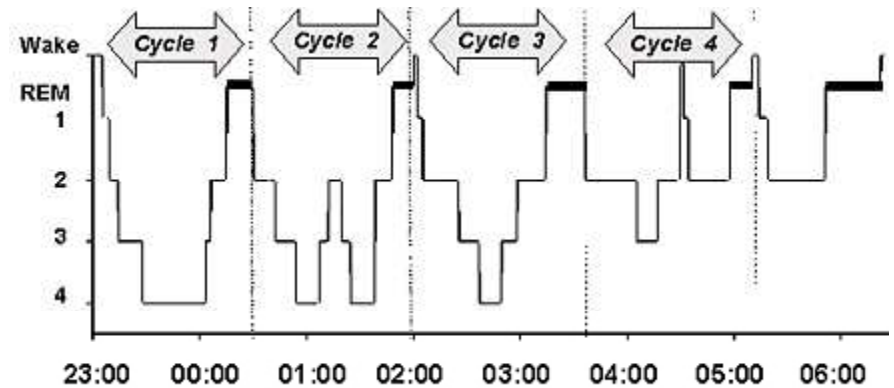
REM Sleep/Paradoxical Sleep

- EEG patterns resemble awake patterns
- Muscle atonia
- Increased respiration and heart rate
- Dreaming sleep - vivid dreams



Sleep Cycles

- Sleep cycles through all stages several times within a night
- Average sleep (young adult) is 7-8 hours
- SWS = 80%, REM = 20%
- Cycles of stages are about 90-110 minutes
- Total sleep can vary from 1-2 hours per night, to 10-12 hours per night
- Duration in each stage and REM varies through sleep episode
 - More Stage 4 earlier, more REM later



Why do we sleep?

- Restoration theories
- Memory theories
- Sleep deprivation
 - Fatal Familial Insomnia
- Disorders
 - Insomnis, sleep apnea, sonnambulism, narcolepsy, cataplexy, night terrors

To sleep, perchance to dream....

- Experience of dreams
 - Intense emotion
 - Illogical thought
 - Sensation
 - Uncritical acceptance
 - Quickly lost to conscious recollection

Dreaming

- REM Dreams
 - Visual Imagery
 - In the Scene
 - Reality oriented
 - Early dreams - day's events
 - Later dreams - bizarre, emotionally intense
- Non-REM Dreams
 - Stage 2 mostly, but also Stages 3 and 4
 - “Thinking dreams”
- Nightmares
 - Exam nightmare, naked nightmare
 - REM Dreams
 - Not night terrors (arousal mechanism)

Dream Theories

- Freud's theory—dream work
 - manifest content
 - latent content (sometimes a cigar is only a cigar)
- Activation-synthesis model
 - dreams produced when mind tries to make sense of neural activity during sleep

Study Questions

- What is consciousness? Include phenomenology and the problem of other minds in your answer.
- What are the qualities that capture how people judge minds? What does each mean?
- What are the four basic properties of consciousness? Describe the differences between the four properties and provide examples.
- How can we study whether conscious awareness comes before or after brain activity that indicates an action?
- Contrast between minimal consciousness, full consciousness, and self-consciousness, discussing any evidence provided for each state of awareness.
- Describe the experience sampling technique. How might this method of studying consciousness be difficult to perform in an experiment?
- What is the default network? How might it relate to consciousness?
- Describe and discuss the main consequence of thought suppression. What does this say about conscious thought control?
- Does subliminal advertising work? What kinds of sub-conscious thought influences behavior?
- Is someone in a coma capable of conscious thought?
- What is sleep behavior and how is it measured?
- Contrast SWS with REM.
- How can you tell if a person is asleep?
- What are the characteristics of SWS? Of REM sleep?
- Describe a typical night's sleep, including a graph of sleep cycles in a sleep episode.
- Why do we sleep? Describe the current theories. Which do you find most compelling and why?
- What is a dream? Describe the characteristics of a dream and how these characteristics differ in SWS vs. REM sleep.
- When do you dream? Be specific about the types of dreams and when they occur.
- Describe the theories about why we dream. What data are available to suggest something about the content of dreams?
- What are the sleep disorders? Define each. (these were briefly mentioned in lecture. Refer to your text to completely answer this question.)