

PSY Exam 1 (Chapters 1-5)

Chapter 1&2

- o **Psychology:** psyche (soul, mind) logos (speech, study)
 - o Scientific study of behavior of living organisms
- o **Plato:** said sensations are not the source of knowledge, the mind is
 - o **Idealism:** example - if your toe got cut off, you could still feel an itch in that toe even though it is no longer there
- o **Aristotle:** knowledge must come through sensations to enter the mind
 - o **Empiricism:** knowledge should be acquired through observation and experience
- o **Psychophysics:** the study of how physical stimuli are translated into psychological experience
 - o **Mind-body problem:** personal experiences are not equal to psychological experiences
- o **Wilhelm Wundt:** from Germany
 - o **Goal of psychology:** to learn how the mind is put together
 - o **Introspection:** ask the subject to reflect on a stimulus; used by structuralists to examine the component parts of consciousness
 - o Opened a psychology school in Leipzig, Germany
- o **Structuralism:** study the structure of the mind
 - o **Edward Titchener:** said that if psychology becomes a science, it must be like a mental chemistry
 - o **Edward Thorndike (associationist):** set up a lab and created a maze for chickens
 - **Puzzle box:** locked a cat in a box and put a fish outside of the box; the cat accidentally hit the latch and goes out of the box and eats the fish; the cat gets put back in and does it faster and faster each time → **law of effect**
 - o **Ivan Pavlov (associationist):** had a dog and a bell, would ring the bell and then give the dog food; after a while, the bell elicited the same response as food, which was salivation → **classical conditioning**
- o **Functionalism:** study what the mind does, how the mind works
 - o **William James:** said that the goal of psych was to study the function of the mind (purpose of consciousness); founded the functionalist movement
- o **Behaviorism:** the mind is not an organ
 - o **John Watson:** said behavior is the only thing you can measure and observe
- o **Gestalt psychology:** in order to see a brick wall as a brick wall, you must put many pieces together in 1 experience

- o **Max Wertheimer:** neon lights move and give you the impression that things are moving → **phi-phenomenon**; another example is when people do the wave
- o **Psychoanalysis:** deals with the unconscious experiences one has
 - o **Sigmund Freud:** created the Psychoanalytic School and said that there is something responsible in the early childhood experience that is responsible for some problems you may have
- o **Clinical psychology:** largest field in psychology
- o **Hypothesis:** tentative statement about the relationship between 2 or more variables
- o **Theory:** system of interrelated ideas used to explain a set of observations
- o **Independent variable:** the condition or event that an experimenter manipulates in order to see its impact on another variable

Chapter 3

- o **Rene Descartes:** “a thinker”; I think, therefore I am
- o **Cartesian hydromechanics:** statues able to move by pumping water into their arms
- o **Pineal gland:** interaction of body and soul; pumps fluid into the nerve vessels which allow movement to occur
- o **Limbic system:** known to regulate your emotions, memory, and motivation
- o **Reticular formation:** the brain structure which is primarily implicated in sleep and wakefulness
- o **Julien Offrey de la Mettrie:** “the soul must be the brain”; the enlightened machine; to understand the mind, study the brain
- o **Luigi Galvani:** physicist; said electricity moves muscles
- o The nervous system consist of individual cells; Santiago Cajal and Camillo Golgi shared the Nobel prize for this discovery
- o **Wernicke’s area:** location in your temporal lobe enables you to understand speech and language
- o **Otto Loewi:** showed the chemical nature of neural transmission
- o **Building blocks of the nervous system**
 - o **Neuron:** nerve cell
 - **Sensory neuron:** sends messages to the brain
 - **Motor neuron:** sends messages to activate muscles
 - **Inter neuron:** sends messages to interconnect senses
 - **Loewi experiment:** put a frog heart in a solution and it continued to beat normally with the nerves attached
 - **Action potential:** a brief upward spike in a neuron’s electrical charge that travels along the axon and therefore causes the neuron to “fire”

- o **Synapse:** junction; gets excited, travels, and releases chemicals; site at which 2 neurons communicate with each other
- o **Neurotransmitters**
 - **Acetylcholine (Ach):** 1st neurotransmitter substance released at the heart; every muscle moved consciously uses Ach; if you have no Ach in your body you are paralyzed
 - **Noradrenaline (NA):** 1st neurotransmitter substance released at the liver; determines how much energy you have, linked to mental illness
 - **Dopamine (DA):** released when you feel pleasure, linked with schizophrenia
 - **Serotonin (SE):** involved in sleep, memory, food intake, and hallucinations
 - **GABA:** most important inhibitory in the brain, allows you to focus on 1 thing
- o **Divisions of the nervous system**
 - o **Peripheral vs. central:** peripheral deals with nerves outside of the spinal cord and brain; central deals with nerves in the spinal cord and brain
 - o **Somatic vs. autonomic:** somatic makes the body move under your own control; autonomic controls organs and you can't control it
 - o **Spinal vs. cranial:** spinal is nerves that come from the spinal cord; cranial is nerves that come from the brain
 - o **Sympathetic vs. parasympathetic:** sympathetic increases your heart rate and makes you excited; parasympathetic calms you down
- o **Central nervous system (CNS):** spinal cord and brain
 - o **Spinal cord:** reflexes, A&D fibers, as thick as your pinky, reaches to the brain, houses reflexes in case of emergency, Dorsal route and ventral route
 - o **Brain**
 - **Hindbrain:** medulla (biological reflexes like breathing), pons (bridge where left side of the brain crosses over), cerebellum (little brain in back of head that has to do with balance)
 - **Midbrain:** tectum (vision and hearing), tegmentum, central grey, colliculi
 - **Forebrain**
 - **Old brain:** hypothalamus (specialize in detecting level of substances in blood, biological motivation), thalamus (switchboard, sensory information to brain), basal ganglia (controls fine muscle movements), limbic system (emotion)