

AP Psychology Final Review

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Before we begin, this should probably serve as a heads up warning on why you shouldn't start studying for the AP exams three days before they happen.

Contents

1 Mistakes in Practice

- There is close to no effect on twins being raised in different families; they can be just as similar as if they were raised together.
- Cortisol is released by people when they are stressed.
- The neuron goes from being negatively charged to briefly being positively charged, and finally returns to being negatively charged again. The magnitude of the negative charge is fixed regardless of the strength of the input signal it receives.
- Retrieving objects takes place in the left hemisphere for most people.
- Temporal lobe plays a role in object recognition and the parietal lobe plays a role in spatial processing.
- REM sleep occurs only after all the sleep stages have been cycled through.
- Four senses: Pressure, cold, warm, pain.
- Explicit memories are created in the hippocampus.
- Executive functioning is the the measure of working memory capacity.
- Cortisol and stress are most closely related. The experiment done was by Hans Seyle.
- Performance is best when arousal is neither high or low.
- Emotions are regulated by the limbic system.
- Cannon-bard - occurs at the same time, James-Lange occurs separately.
- Schachter Theory - More arousal is more fear.
- Adler stressed the desire to achieve superiority and avoid inferiority.
- 1973 Rosenhan Study - The Rosenhan study illustrated that people are likely to interpret behavior as confirming a diagnosis.

2 Research and History

2.1 Psychoanalytic Approach

- Very influenced by Sigmund Freud.
- In the late 1800s, he came up with a psychoanalytic approach which was about the unconscious drives.
- For the most part, psychological approach were about drawing apart these unconscious desires.

2.2 Behavioral

- Later, Ivan Pavlov, Skinner, Watson, theorized that you were all influenced about the ways that you were reinforced/punished.

2.3 Humanist

- Stemmed from hippies.
- Humanist is the drive for free will.
- You are trying to drive to reach your greatest free potential.

Mr. Rogers, isn't it a special day today

- Things like unconditional positive regard, you are the best person to solve your own problem.

2.4 Biological

- Brain surgery, drugs, etc.
- Your behavior is a result of neurotransmission, brain structures, etc.
- When drugs came out, they were supposed to get people out of poor mental states.

2.5 Cognitive

- Anything about thoughts lmao
- How do you interpret what happens.
- This interpretation then, is going to affect your behavior. If you are getting therapy, you are probably getting cognitive behavioral therapy.
- Ellis and Beck primarily.

2.6 Structuralists vs Functionalists

- The first two theories were structuralism and functionalism.
- Structuralism is known to be a part of experimental psychology.
 - Focuses on different brain elements and their capacities.
 - Engaging in self-reflective introspection.
 - Attempted to create a "periodic table" for psychology.
- Functionalism was introduced as a counter argument to structuralism.
 - Focuses on the adaptations of human mind to different environments.

2.7 Types of Research

- Case Studies
 - Study of an individual, or some group. Depends, but it should be very small.
 - Look at why the person became the way that they did.
 - Weak in the regard that the sample size is very small.
 - A bias in the case study is that it can be heavily biased by who is writing it.
- Naturalistic Observation
 - Watching humans/animals in the natural environment without interfering.
 - You can't really ask why, otherwise risk screwing up the whole principle of "observation."
- Survey
 - The strength of a survey is that you get a lot of information cheaply. Although, framing is a big problem; who you ask; people don't like long surveys, etc.
- Experiment
 - The only one that shows cause and effect
 - Contrived behavior, laboratory like.
 - When dealing with humans, they may show bias just because it's in a laboratory.
 - Already biased, since most of the research is done on unsuspecting undergraduates.
 - There are ethical things with the experiments.
- Correlational
 - Correlation does not imply causation.
 - Be careful for confounding variables.

2.8 Sampling

This is literally just AP statistics so you don't have to review this. However, I'm going to take some notes anyways.

- Stratified sample → divide into several groups and then take random samples from each.

2.9 Ethics

- Confidentiality
- Informed consent
- Voluntary Participation
- Deception (is allowed)
- Withdrawal Rights

- Debriefing
 - Before they leave, they need to know what they have done.
- Statistically significant, the likelihood that two or more variables is caused by something other than random chance.

2.9.1 Normal Distribution

Approximately 65 - 95 - 99.7%

3 Biological Bases of behavior

- Over 95% of the neurons we have are interneurons.
- Afferent take from the brain to the senses.
- Efferent take from the senses to the brain.
- Dendrites receive information
- Soma is the cell body
- Myelin sheath covers the axon of some neurons and helps speed neural impulses.
- Dendrites receive messages from other cells.
- The neurotransmission has inhibitors or excitors, which help inhibit and excite respectively.
- Action potential
 - A brief electrical charge that travels down the axon of the neuron will fire.
 - Once it hits a negative threshold, then the action potential takes place.
 - Action potential is all or nothing.

3.1 Nervous Systems

- Sympathetic vs Parasympathetic → the para in Parasympathetic stands for parachute which is relaxing. While the sympathetic does quite the opposite, with the fight or flight response.
- Common neurotransmitters
 - Acetylcholine - Attention, arousal, muscle movement, memory; alzheimers.
 - Dopamine - Mood/emotion, arousal, learning; parkinson's, schizophrenia, cocaine amphetamines. Too much is schizophrenia, too little is parkinson's.
 - Norepinephrine - Mood, arousal, learning; depression. Acronym: Epipen.
 - Serotonin - Sleep hunger, aggression, arousal; depression, anxiety, inhibit dreaming.
 - Gaba - slows everything - anxiety, huntington's epilepsy.
- Agonists mimic a drugs.
- Antagonists blocks a drugs.

3.2 Parts of the Brain

- Medulla does the dull, automatic things; breathing, heart breathing.
- Pons - restful sleeping, like a pond. Sleep and wakefulness.
- Cerebellum - Muscle movement and coordination; think of Sarah ringing a bell jumping around the room like a ballerina telling us about how coordinated she is.
- Reticular activating system - arousal
- Thalamus - looks like an egg in the middle of the brain - relays things into the upper part of the brain.
- Hypothalamus - gets you ready for fight or flight, feeding.
- Amygdala - emotional amy - emotions, particularly fear.
- Hippocampus - associated with memory - hippo on campus about memroy.
- Pituitary gland - in limbic system.
- Cerebrum, Cortex, etc. About 70% of the human brain.
- The corpus collosum connects the two hemispheres. In epilepsy, this is cut.
- Endocrine is practically controlled by the pituitary gland. Mainly glands.

3.3 Lobes of the Brain

- Occipital - vision
- Temporal - Memory, understanding, time, language.

- Parietal Lobe - Senses.
- Motor cortex - Movement.
- Frontal lobe - executive functions, thinking, planning, organizing, problem solving emotions and behavioural control - personality.
- Broca's Area - produces speech
- Wernicke's area - understands speech.
- Plasticity is saying that other parts of the brain will take over if other parts are damaged.
- Neurogenesis is that you can get new nerve cells.
- Absolute threshold - The weakest amount of a stimulus that a person can detect 50% of the time.
- Weber's Law: difference threshold is proportional.
- Cocktail Party Effect: Do you understand that you can pull out one stimulus even though there are a bunch going around you, or there's something someone says your name. It's the ability to focus on one voice, or listening to something and it grabs your attention.
- Signal detection theory - Absolute threshold is fluid. Hit, false alarm, miss, correct rejection.

3.4 Sensation and Perception

- Cornea, it's the front part of the eye.
- Iris, is the colored part, has muscle that controls the pupil which allows light in.
- Lens accommodates for that light and flips the image over.
- Back part of the eye: retina, has rods and cones.
- Bipolar cell.
- All of these leave the eye through the optic nerve. The eye has a blind spot.
- Monocular cues.
 - Perspective is the effect of creating depth.
- Gestalt Principles
 - Ways we organize the world.
 - Proximity, similarity, enclosure, symmetry, closure, continuity, connection, figure ground.
- Tastes
 - Sour, Bitter, Salty, Sweet, Umami
- Top-down processing is going from the big picture to looking at the smaller parts.
- Bottom-up processing going from the smaller pieces into the bigger ones.

3.5 Theories of Color

- Trichromatic theory, there is a red green blue signals (all separate).
- Opponent process theory, red signal and green signal go to brain, blue and yellow go to brain.
- Combined theory: half and half of the above two.

3.6 Stages of Consciousness

- Sleep waves (BATSD)
 - Beta - awake
 - Alpha - relaxed
 - Theta - Stage one sleep
 - Spindles, k-complexes - Stage two sleep
 - Delta waves - Stage three sleep.
- Rem sleep gets longer through the night.
- Rem deprivation where you wake them up right before REM, you are more likely to go to REM sleep quicker.

3.7 Drugs

- Stimulants: excite the nervous system.
 - Cocaine
 - Nicotine

- Amphetamine
- Depressants: slow the nervous system.
 - Xanax
 - Alcohol
 - Opioids
 - Oxycotin
 - Heroin
 - LSD
- Dream theories
 - Freud's Wish-fulfillment
 - Information-processing - dreams help us sort out the day's events.
 - Physiological function - Helps preserve neural path ways.
 - Activation-synthesis - your mind is active, and your dreams help synthesize your information.

3.8 Learning

- Classical conditioning
- Operant conditioning
- Pavlov's experiment
 - Used a sound which was a neutral stimulus. If you do the tuning fork just before you present the bell, the dog salivates.
- Reinforcers
 - Primary - biological needs such as food
 - Secondary - money, etc.
- Negative - taking away
- Positive - giving something
- Negative Reinforcement - Parents nag you to take out the trash. Negative thoughts.
- Positive punishment - someone hits you. Something does something to you. Introduces an unpleasant stimulus
- Negative punishment - takes away something you want like a cell phone.
- Schedules of Reinforcement
 - Ratio happens after a certain number of responses.
 - Interval is about waiting.
- Escape learning - leave to avoid a stimulus.
- Avoidance learning - leave to avoid a stimulus.
- Learned helplessness - perceived lack of control which forces a generalized helpless behavior.
- Overjustification effect - give too much award and lead something to become an extrinsic reward.

3.9 Memory

- Explicit memory - also known as declarative memory, with conscious recall.
- Implicit memory - without conscious recall.
- Priming
- Procedural memory - motor skill and cognitive skills.
- Iconic memory - visual information that lasts around 0.5 seconds.
- Echoic Memory - Auditory information that lasts several seconds 3-4.
- Flashbulb Memory - Strong, seemingly very accurate memory made during a shocking event.
- Prospective memory: remembering to do future tasks.

4 Personality

4.1 Freud

- Ego -