

## Psych Exam 1

### Ch.1

Psychology- scientific study of behavior of all living organisms

**William James**- founder of functionalism, study purpose of consciousness, not just its structure

**Titchener**- structuralism identified brain elements & arrangement, used introspection technique to examine components of consciousness (based off of Wundt's theories)

**Watson**- behavioralism, only study observable behavior, actions (association)

**Wilhelm Wundt**- founder of all psychology, made it its own discipline

**Clinical Psychology**- largest field in psychology

**Forensic Psychology**- study criminal behavior, why criminals commit crimes

### Ch.2

**Hypothesis**- tentative statement about the relationship between 2 variables

**Theory**- interrelated ideas to explain a set of observations

Belief is a theory, prediction is a hypothesis based on that belief

**Operational definition**- how you define a variable, what you use to measure it

Not to be confused w/ dependent variable, measuring heart rate it's the operational def

**Independent variable**- manipulated

**Dependent variable**- what you're measuring, manipulated variable (changes)

**Correlations**- no relationship= 0, perfect positive correlation= 1, perfect neg. correlation= -1

Types of experiments etc.

Survey Method, naturalistic observation, case study, archival research

- Subjectivity & danger of focusing attention selectively-greatest in compiling a case study

Final step in investigation is to report the findings

### Ch.3

**Phantom-limb phenomenon**- experiencing pain in an amputated part of body

**Neurons**- cells that receive, integrate, & transmit info, GLIA support neurons

- Sensory (sends stimuli info to CNS), motor (info sent to move muscles) & inter

**Action potential**- neuron firing, brief upward spike in neurons electrical charge, neurons become more positively charged (resting potential- more negatively charged) neg--- to pos generator pot.

**Absolute refractory period**- amount of time that goes by before a neuron can fire again

**Parasympathetic**- relaxes you after an emergency situation

**Sympathetic**- fight or flight (^opposite)

**Central Nervous System**- brain & spinal cord

**Peripheral Nervous System**- all other neurons throughout body that aren't part of the CNS

**Synapse**- site at which 2 neurons communicate (chemical energy)

**Dendrites**- fingers, receive info (electrical signals)

**Soma/cell body**- palm (3 components of neuron)

**Axon**- arm, info travels through to terminal button, myelin sheath insulates, speeds info up, terminal button secretes NT at synapse

Neurotransmitter substance – chemicals contained w/in synaptic vessels

**Limbic System**- brain region that regulates emotions, memory & motivation, emotional behavior

**Reticular formation**- sleep & wakefulness, if damaged- comatose

**Corpus callosum**- connects 2 cerebral hemispheres of brain

**Hypothalamus**- part of old brain that controls motivation of biological urges

**Wernicke's area**- part of temporal lobe that understands speech & language, creates meaningful speech

**Broca's area**- speech production, creates speech, not necessarily meaningful

**Otto Loewi**- showed the chemical nature of neural transmission - Neurotransmitters

**Galvani**- electricity- action potential "animal electricity" – frog legs

- Neurons rely on electrical & chemical signals to communicate
- An EEG electroencephalograph monitors the electrical activity of brain

**Occipital lobe**- brain lobe responsible for processing visuals

In a monkey's visual cortex there are single cells that fire maximally to the image of a monkey hand

P.86 Neurotransmitters

**Acetylcholine**- activates motor neurons, regulates attention, arousal & memory, muscle contractions

**Dopamine**- reward pathway, voluntary movement & pleasurable emotion

**Norepinephrine**- modulates mood & arousal

**Serotonin**- regulates sleep/wakefulness, eating, and aggression (depression)

**GABA**- inhibitory transmitter, regulates anxiety & sleep/arousal

**Glutamate**- excitatory transmitter, learning & memory

**Endorphins**- pain relief & some pleasurable emotions, runner's "high"

**Descartes**- mind and brain are 2 separate entities

- Hydro-mechanics- our bodies are made of water powering our movements

**De la Mettrie**- mind & brain are the same "enlightened machine"

Ch.4

**Phi-phenomenon**- illusion of movement, the wave

**Proximity**- Gestalt principle of perceptual organization, grouping together close objects (letters)

- Whole is greater than sum of parts, perceive things as a whole

**Interposition**- depth cue, objects that overlap others are perceived as closer

**Bipolar & Ganglion cells**- neural cells that process light & send it to the brain, form the optic nerve. Optic nerve has axons of ganglion cells.

**Receptor cells**- rods & cones in retina, receive light as it comes in, turn light into neural energy

**Cornea**- where light enters the eye

**Lense**- function is to bend entering light rays and focus them onto the retina

**Retina**- absorbs light, converts light into neural energy, light transducing cells

**Pupil**- regulates the amount of light that enters the eye (Iris is similar)

**Blind spot**- space where optic nerve leaves the back of the eye to send signals to the brain (optic disk) has no receptor cells in it hence the blind spot

Light hits retina, signal travels down optic nerve, passes through thalamus specifically the LGN, sends signal to cerebral cortex (occipital lobe)

**Blakemore & Cooper**- cats in cages only see vertical lines

**Balloon video**- only size changes, distance seems to. Apparent motion effect was most pronounced when size and brightness changed

Ch.5

**Circadian Rhythms**- biological cycle that lasts 24 hours and is easily disrupted by air travel

Appear to be regulated by several internal clocks

Signals sent from SCN to pineal gland reset circadian rhythms

**Melatonin**- pineal gland releases it, plays key role in regulating sleep/wake cycles

Role of pineal gland in sleep is to produce melatonin, reduces affects of jetlag

**Delta waves**- deep sleep, slow waves, slower frequency & higher amplitude

**Beta waves**- normal active waves, waking thought

**Alpha waves**- drowsy

**Theta waves**- light sleep

**REM sleep**- dreaming, often includes beta waves, active brain

- Last dream period of night is usually the longest
- Promotes memory consolidation, controls appetite, increase neural maturation

**Psychoactive drugs:** (chemicals that alter one's emotional state, behavioral functioning & mental condition)

**Stimulants**- generate an increase in CNS activity, ex. Amphetamine= Benzedrine, energetic

**Sedatives**- generate a decrease in CNS activity, sleep inducing ex. Barbiturate=Nembutal

**Narcotics**- opiates, pain relief ex. Morphine "narcotic analgesic" (codeine, heroin)

**Cocaine**- most often results in dependence, effects occur because of increase activity of **dopamine** (pleasure), dopamine over-stimulates reward pathway

- Dopamine- schizophrenia, Parkinson's, pleasure (nothing to do w/ sleep)

**Hallucinogens**- distorts sensory & perceptual experience ex. LSD

**Antidepressants**- ex. Fluoxetine= Prozac

**Anxiolytics**- ex. Diazepam= valium

**Antipsychotic**- ex. Chlorpromazine= thorazine

**Cannabis**- produces mild, relaxed euphoria

**Alcohol**- drug with the most wide ranging effects, produces relaxed euphoria, decreases in inhibitions

**MDMA**- produces a warm, friendly euphoria

Synergistic effect- combining drugs can have a stronger effect than the sum of the effects of each

P.212 table w/ types of drugs and effects