

BIOLOGICAL PSYCH

T3 Overview

Parts of body

anterior cingulate cortex	collar around corpus collosum, making errors may cause changes in dopamine
basal ganglia	implicit learning
cerebellum	attention, language and motor control, coordination-timing-precision, clap
cochlea	hexagonal clusters of cilia
corpus collosum	wide, flat bundle of neural fibers under the cortex; small in dyslexic children
dorsolateral area	sleep deprivation inhibits activity in this area
frontal lobe	easily injury, 3 regions
hippocampus	consolidation, STM into LTM
hypothalamus	regulates body temperature, hunger, thirst, sleep, and controls pituitary gland
LGN	vision pre-processing
medulla oblongata	centers that control respiration, vomiting, heart rate and blood pressure
MGN	sound pre-processing
occipital lobe	primary projection area for vision
optic chiasm	cross your nose
orbitofrontal area	drug cravings
parietal lobe	3-d view of world, pain, touch, math processing (left for adding & subtracting, right for quantity processing)
pineal gland	melatonin (more as in dark)
pons	relay between thalamus, medulla & cerebellum; sleep paralysis, dreaming, taste-chewing-saliva & swallowing
prefrontal cortex	contains dorsolateral, orbitofronal, ventralmedial areas
primary motor cortex	voluntary movements, homunculus
reticular formation	irreversible coma
retina	rods, cones, horizontal, amacrine (22 types; 70% of input to ganglions), bipolar (30% of input to ganglions)
secondary motor cortex	coordinates complex 2-hand movements
superior temporal lobe	primary projection area for sound, concentrically organized
temporal lobe	language, vision, mathematics, and sound
thalamus	switchboard, regulates consciousness & sleep, many nuclei (LGN, MGN, hypothalamus)
ventralmedial area	social function and emotion regulation

Muscles

Striated	arm, leg
Smooth	liver, stomach
Both	cardiac
Fast-twitch	fatigue quickly, sprinting
Slow-twitch	distance running

Stroop task	naming the color but not saying the word
Executive process	ability to switch from task to task
Females	Cyclic hormone release; look at dolls more than trucks by 6 months old
Habituation	ignoring repetitive stimuli
Consciousness	all or nothing
Sexual differentiation	
gender	how you identify sexually (I am girl)
gender role	bake or play baseball
Müllerian ducts	female internals
Wolffian ducts	male internals

DISORDERS

ADHD	
predominantly inattentive	easy to miss
Apraxia	damage to cerebellum or parietal lobe
ideomotor apraxia	can't copy movements,
ideational apraxia	can't identify object purpose (can opener), improperly sequence behaviors (shoes before socks)
gait apraxia	glued to floor
buccofacial	can't whistle or lick lips
speech	can't coordinate or plan speech movements
Alzheimer's disease	violence
Amnesia	
anterograde amnesia	Difficulty learning new things
retrograde amnesia	
Autism	developmental disorder, symptoms by 3 years old
Memory	
encoding-decoding	
multiple systems	don't lose all aspects of memory equally
prospective memory	Remembering to go to the doctor
b. procedural memory	
c. semantic memory	
d. episodic memory	
e. sensory memory	
implicit memory	less damaged in brain damage, basal ganglia

Mood Disorders

bipolar disorder	mania once
depression	pulling away from friends, trouble concentrating, trouble sleeping, feeling helpless, suicide
mania	elevated irritability, extreme energy, racing thoughts, overconfidence, frenzy, risky behavior, suicide
mixed episode	mania & depressed at the same time
seasonal affective disorder	effects of annual cycle & sunlight

Obesity
become obese. Fructose and glucose
buffet of high-calorie foods, lose interest in other rewards, eat some of all the foods, can't pass up any option, have different gastric emptying rates, impacts on hunger, endocrine profiles, metabolic rates

Panic Disorder
influenced by genetics, more common in women & teen, don't give glutamate

Parkinson's
tremors, substantia nigra, more men than women

PTSD

angry outbursts, hyperarousal
re-experiencing
avoidance

Schizophrenia

negative symptoms
emotional response, lack pleasure
positive symptoms
hallucinations, delusions and thought disorders
episodes typically start during teens, vary in intensity
flu is contributing factor
more likely if born in later winter, live far from the equator, low birth weight, live in the city, different Rh factor, mother underweight
hallucinations can be any sense but usually is hearing (voices)

Stroke

hemorrhagic stroke
weak blood vessel in the brain that bursts
ischemic stroke
blocked-clogged artery

Williams syndrome
mental retardation but okay language: