

Unit 3a – Definitions

Biological Psychology

- = a branch of psychology concerned with the links between biology and behavior.
- Some biological psychologists call themselves
 - behavioral neuroscientists,
 - neuropsychologists,
 - behavior geneticists,
 - physiological psychologists, or
 - biopsychologists.



Neuron

= a nerve cell; the basic building block of the nervous system.



Sensory Neurons

= neurons that carry incoming information from the sensory receptors to the brain and spinal cord.



Motor Neurons

= neurons that carry outgoing information from the brain and spinal cord to the muscles and glands.



Interneurons

= neurons within the brain and spinal cord that communicate internally and intervene between the sensory inputs and motor outputs.



Dendrite

= the bushy, branching extensions of a neuron that receive messages and conduct impulses toward the cell body.



Axon

= the extension of a neuron, ending in branching terminal fibers, through which messages pass to other neurons or to muscles or glands.



Myelin Sheath

= a layer of fatty tissue segmentally encasing the fibers of many neurons; enables vastly greater transmission speed of neural impulses as the impulse hops from one node to the next.



Action Potential

= a neural impulse; a brief electrical charge that travels down an axon.



Threshold

= a level of stimulation required to trigger a neural impulse.



Synapse

= the junction between the axon tip of the sending neuron and the dendrite or cell body of the receiving neuron. The tiny gap at this junction is called the synaptic gap or synaptic cleft.



Neurotransmitters

= chemical messengers that cross the synaptic gaps between neurons. When released by the sending neuron, neurotransmitters travel across the synapse and bind to receptor sites on the receiving neuron, thereby influencing whether that neuron will generate a neural impulse.



Reuptake

= a neurotransmitter's reabsorption by the sending neuron.



Endorphins

= “morphine within” – natural, opiatelike neurotransmitters linked to pain control and pleasure.



Nervous System

= the body's speedy, electrochemical communication network, consisting of all the nerve cells of the peripheral and central nervous systems.



Central Nervous System

= the brain and spinal cord.



Peripheral Nervous System

= the sensory and motor neurons that connect the central nervous system (CNS) to the rest of the body.



Nerves

= bundled axons that form neural “cables” connecting the central nervous system with muscles, glands, and sense organs.



Somatic Nervous System

- = the division of the peripheral nervous system that controls the body's skeletal muscles.
- Also called the skeletal nervous system.



Autonomic Nervous System

= the part of the peripheral nervous system that controls the glands and the muscles of the internal organs (such as the heart). Its sympathetic division arouses; its parasympathetic division calms.



Sympathetic Nervous System

= the division of the autonomic nervous system that arouses the body, mobilizing its energy in stressful situations.



Parasympathetic Nervous System

= the division of the autonomic nervous system that calms the body, conserving its energy.



Reflex

= a simple, autonomic response to a sensory stimulus such as the knee-jerk response.



Endocrine System

= the body's "slow" chemical communication system; a set of glands that secrete hormones into the bloodstream.



Hormones

= chemical messengers that are manufactured by the endocrine glands, travel through the bloodstream, and affect other tissues.



Adrenal Glands

= a pair of endocrine glands that sit just above the kidneys and secrete hormones (epinephrine and norepinephrine) that help arouse the body in times of stress.



Pituitary Gland

= the endocrine system's most influential gland. Under the influence of the hypothalamus, the pituitary regulates growth and controls other endocrine glands.

