### Chapter 1
Psychology is the study of overt behavior and mental processes (over- things you can see and mentally process).

Empiricism is information gained from direct observation (hard evidence).

Psychology is a science and profession because what they do is based on evidence/science and they study human nature and the mind.

Psychology is NOT just common sense because it is based on scientific observations.

A psychologist's four main goals are, 1. Description: which is naming and classifying. 2. Understanding: which is when we can state the causes of the behavior. 3. Prediction: which is the ability to forecast behavior accurately. and 4. Control: which is the ability to alter the conditions that affect behavior.

Critical thinking is a type of reflection that involves asking a belief can be supported by science.

"Few truths transcend the need for logical analysis and empirical thinking" means some things don't need to be researched (religious beliefs).

"Critical thinkers often wonder what it would take to show that a 'truth' is false" means they want to find out when they are wrong, even when it is difficult to accept.

"Authority or claimed expertise does not automatically make an idea true or false" means you don't have to automatically (dis) believe what a person says.

"Judging the quality of evidence is crucial" means you should also critically evaluate the quality of one's evidence.

"Critical thinking requires an open mind" means you should be able to consider others' evidence.

Wilhelm Wundt was the first guy to make psychology an independent science. Introspection means a better understanding of one.

Edward Kitchener took Wundt's ideas and added 'structure'. Structuralism means to analyze mental life into basic elements.

### Chapter 1 (cont)
William James as influences by Darwin.

Functionalism is the study of how we function and help us adapt to the environment.

John Watson and B.F. Skinner studied the mind or conscience. Behaviorism is the study of observable behavior (no mind).

Alfred Bandura studied a view that combines conditioning and thinking. Cognitive Behaviorism is watching and then doing.

Fritz Perls created Gestalt Psychology which is the study of thinking, learning, and perception as a whole unit (can't break it down).

Carl Rogers and Abraham Maslow focused on human experience, potential, believed 'people are born good'. Humanism is the belief that society gets in the way.

Freud came up with the unconscious mind, dream interpretation. Psychoanalytic Psychology is where everyone is 'ana' and 'selfish'.

Biological Perspective explains behavior through activity of brain, nerves, genes, and mechanistic view of nature.

Psychological Perspective is the study of observable behaviors and the effects of learning.

Sociocultural Perspective is that behavior is related to social and cultural environments within a person is born, grows, and lives.

Eclectic Perspective is to draw insights from a variety of perspectives.

Psychologists do private practice or university teaching. They have to have a doctorate and license.

Clinical Psychologist treat psychological problems/research on therapies and mental disorders.

Counseling Psychologist treat milder problems as in troubles at work or school.

Psychiatrists can prescribe meds. They are medical doctors. Treatment of mental and emotional disorders. Have to have a PhD.

Counselors are mental health professionals who help people with problems that don't involve serious disorders.

### Chapter 1 (cont)
Social workers are mental health professionals that apply social science to help patients.

(Scientific method) Making observations means to observe behaviors.

(Scientific method) A problem is what is wrong.

(Scientific method) A hypothesis is an educated guess of the topic.

(Scientific method) Gathering evidence means to test a hypothesis.

(Scientific method) Theory building means to find information about your theory.

(Scientific method) Publishing results means to publish your results to see if your results to see if its right/wrong.

Naturalistic observation means to observe behavior as it unfolds in natural settings.

An advantage of naturalistic observation is you can gather important information.

A limitation is that there is no control possible.

An observer effect is the change in an organism's behavior by knowing they are observed.

An observer bias is to see what they expect to see.

Correlational studies are two or more factors are studied/non-experimental study to measure relationships.

Positive correlational is a statistical relationship in which if one increases in one measure, the other will correspond.

Negative correlational means a statistical relationship where one measure increase the other will decrease.

Correlation is not Causation!!!  Causation is the act of causing some effect.

A clinical method (case study) is an in-depth focus on a single participant.

Phineas Gage was a young foreman on a work crew who had a 13 lb steel rod impaled into the front of his brain by an explosion of dynamite and he lived with zero problems.

A survey method allows information about large numbers of people to be gathered and can address questions not answered by other approaches.
Chapter 1 (cont)

A representative sample is a small group that accurately reflects a larger population whereas a population is an entire group of people belonging to a particular category

Internet surveys provide interesting information about topics BUT can limit web-based research

Social desirability is when people might not be honest/people want to be better than they are

Subjects are who you use in an experiment-not biased

Independent variable are variables the researcher manipulates

Dependent variables depend on the independent variable outcome

Extraneous Variables are where one has no control over

An experimental group is where one can alter a condition

Control groups are where things don’t change

A random assignment is where everyone is assigned different things

A statistically significance is research that the same outcome will occur

A meta-analysis takes all the research, combines it, and finds the final outcome

A placebo effect is believing something is making a difference when it isn’t (knowing its going to happen)

A single-blind experiment is when subjects don’t know what testing they’ve got

A double-blind experiment is when the researcher AND the subjects are both blind to the testing

Chapter 4 (cont)

Sensory Selection is considerable selection that occurs because sensory receptors do not transduce all the energies that they encounter

Sensory Analysis is the separation of sensory information into important elements

The pupil is the centre of the iris of the eye that allows light to strike the retina

Lens are transparent structures behind the iris; colored part of eye

The Retina is the light-sensitive layer of cells at the back of the eye

The optic nerve transmits impulses to the brain from the retina at the back of the eye

The occipital lobe helps understand what the eyes are seeing

Rods are visual receptors for seeing in dim light that produce only black and white sensations

Cones are visual receptors for perceiving colors and daylight visual activity

Accommodation is changes in the shapes of the lens of the eye to enable the seeing of close and far objects

Hyperopia is having difficulty focusing on nearby objects (farsighted)

Myopia is having difficulty focusing on distant objects (nearsighted)

Astigmatism is the defect in the cornea, lens, or eye that causes some areas of vision to be out of focus

Trichromatic theory is the theory of color vision based on 3 cone types (red, green, blue)

Opponent Theory is the theory of color vision based on 3 coding color systems (R and G, Y and Blue, Black and W)

Color blindness is a total inability to perceive color, and color weakness is the inability to distinguish some colors

Dark adaptation is increased retinal sensitivity to light

Sound waves are waves of compression and rarefaction, by which sound is propagated in an elastic medium (air)

Chapter 4 (cont)

Outer Ear (Pinna, Eardrum) -> Middle Ear (Ossicles) -> Inner Ear (Cochlea, Hair cells)

Frequency Theory is tones up to 4000 herts are converted to nerve impulses that match the frequency of each tone

Place Theory is higher and lower tones excite specific areas of the cochlea

Conductive hearing loss is poor transfer of sounds from the eardrum to the inner ear

Sensorineural hearing loss is loss of hearing caused by damage to the inner ear hair cells or auditory nerves

Absolute Thresholds are minimum amounts of energy that has to be transduce to be picked up on

Perception is the ability to see, hear, or come aware of something through senses

Perception Consequence (Construction) is the mental model of external events

Figure-Ground is perception so that part of a stimulus appears to stand out as an object against a less prominent background

Nearness is all other things equal, stimuli appears to stand out as an object against a less prominent background

Similarity is stimuli that are similar in size, shape, color, or form tend to be grouped together

Continuation is perceptions that tend toward simplicity and continuity

Closure is the tendency to complete a figure, so that it has a consistent overall form

Size is the perceived size of an object that remains constant, despite changes in its retinal image

Shape is perceived shape of an object that is unaffected by changed it its retinal image

Brightness is the apparent brightness of objects that remain the same so long as they are illuminated by the same amount of light

Depth Perception is the ability to see 3-D space and to judge distances accurately

Binocular is information about distance and 3-D space which require two eyes
### Chapter 2 (cont)

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>An ion channel</td>
<td>Are tiny openings through the axon membrane</td>
</tr>
<tr>
<td>A negative after-potential</td>
<td>Is a drop in electrical charge below the resting potential</td>
</tr>
<tr>
<td>A saltatory conduction</td>
<td>Is the process by which nerve impulses travel down the axons of neurons coated with myelin jump from gap to gap in the myelin layer</td>
</tr>
<tr>
<td>An Excitatory neurotransmitter participates in movement</td>
<td></td>
</tr>
<tr>
<td>An Inhibitory neurotransmitter participates in moods</td>
<td></td>
</tr>
<tr>
<td>Neuropeptides</td>
<td>Are brain chemicals whereas Neuromediators are any chemical released by a neuron that alters activity in other neurons</td>
</tr>
<tr>
<td>Neural Networks</td>
<td>Are interlinked collections of neurons that process information in the brain</td>
</tr>
<tr>
<td>Neuroplasticity</td>
<td>Is the capacity of the brain to change in response to experience</td>
</tr>
<tr>
<td>Soft signs</td>
<td>Are behavioral signs of nervous system dysfunctions (clumsiness)</td>
</tr>
<tr>
<td>EEG</td>
<td>Is a device that detects, amplifies, and records electrical activity in the brain (brain waves)</td>
</tr>
<tr>
<td>PET</td>
<td>Is an imaging technique that results in a computer (generated image of brain activity)</td>
</tr>
<tr>
<td>MRI</td>
<td>Is a recording of brain activity</td>
</tr>
<tr>
<td>A central nervous system</td>
<td>Is a complex of nerve tissues that controls the activities of the brain and spinal cord</td>
</tr>
<tr>
<td>The peripheral nervous system</td>
<td>Is a nervous system outside the brain and spinal cord</td>
</tr>
<tr>
<td>A somatic system</td>
<td>Is voluntary control of the body</td>
</tr>
<tr>
<td>A autonomic System</td>
<td>Has no control of the body</td>
</tr>
<tr>
<td>Sympathetic</td>
<td>Is part of the autonomic system that arouses the body</td>
</tr>
<tr>
<td>Parasympathetic</td>
<td>Is part of the autonomic system that slows down everything</td>
</tr>
<tr>
<td>The spinal cord</td>
<td>Is the conduction path for motor and sensory impulses</td>
</tr>
<tr>
<td>The reflex arc</td>
<td>Is the local reflexes</td>
</tr>
<tr>
<td>Sensory neurons</td>
<td>Carry information from the sense organs to the brain</td>
</tr>
</tbody>
</table>

### Chapter 4 (cont)

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<thead>
<tr>
<th>Topic</th>
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</tr>
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<tbody>
<tr>
<td>Binocular disparity</td>
<td>Is discrepancy in the images that reach the right and left eyes</td>
</tr>
<tr>
<td>Binocular convergence</td>
<td>Is the second binocular depth cue (eyes coming together)</td>
</tr>
<tr>
<td>Monocular accommodation</td>
<td>Is the bending of the lens to focus on nearby objects</td>
</tr>
<tr>
<td>Monocular Pictorial cues</td>
<td>Are monocular depth cues found in paintings, drawings, and photographs that impart information about space, depth, and distance</td>
</tr>
<tr>
<td>A visual cliff</td>
<td>Is to investigate depth perception in human and animal species</td>
</tr>
<tr>
<td>Perceptual learning</td>
<td>Is the changes in perception that can be attributed to prior experiences; result of changes in how the brain processes sensory information</td>
</tr>
</tbody>
</table>

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**Chapter 2**

- A cell body or soma is the main body of a neuron or other cell
- A nucleus is the central and most important part
- A dendrite is a neuron fiber(s) that receive incoming messages
- An axon is a fiber that carries information away from the cell body of a neuron
- A myelin sheath is a fatty layer coating some axons
- An axon terminal or synaptic knob is a bulb-shaped structure at the ends of axons that form synapses with dendrites and somas of other neurons
- A synaptic cleft or space is a microscopic space between 2 neurons, over which messages pass
- A receptor site is areas on the surface of neurons and other cells that are sensitive to neurotransmitters or hormones
- Resting potential is an electrical charge of an inactive neuron
- A threshold is a point at which a nerve impulse is triggered
- An action potential is a nerve impulse

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**Chapter 2 (cont)**

- Motor neurons carry signals from the central nervous system to the outer parts (muscles)
- Connection Neurons are neural cells that form connections between neurons
- The left brain is for language, math, time, movement, and controls the right side of the body. The right brain is skills, nonverbal, detect emotions, understanding language, and controls the left side of the body. (The corpus callosum connects the "two brains"
- The cerebral cortex is the outer layer of the brain (walking and talking)
- The frontal lobes control sense of self, motor control, and higher mental abilities such as reasoning and planning
- The parietal lobe are the sensations such as touch, temperature, and pressure
- The temporal lobes control hearing and language, memory (Broca's Area- something to do with verbal talking)
- Occipital lobe controls vision (located in the back of brain)
- Motor cortex is where the brains nerve impulses originate that make voluntary muscular activity
- Sub-cortex (hindbrain) are all brain structures below the cerebral cortex
- Medulla connects the brain with the spinal cord and controls vital life functions (heart rate, breathing)
- Pons are areas on the brainstem that acts as a bridge between the medulla and other structures
- Cerebellum is the brain structure that controls posture, muscle tone, and coordination. (outside the brain- "how to" skills)
- Reticular activating system is part of the reticular formation that activates the cerebral cortex (arousal, movement, attention)
- Sub-cortex (limbic system) is the system in the forebrain that is closely linked to emotional response

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## Chapter 2 (cont)

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<tbody>
<tr>
<td>Thalamus</td>
<td>is the relay station to cortex for sensory information (sends information where it needs to go)</td>
</tr>
<tr>
<td>Hypothalamus</td>
<td>has the control of hunger, thirst, temperature, and other visceral and bodily functions (emotions, motivation)</td>
</tr>
<tr>
<td>Amygdala</td>
<td>associates with fear responses (anxiety)</td>
</tr>
<tr>
<td>Hippocampus</td>
<td>associates with strong memories</td>
</tr>
<tr>
<td>Endocrine system</td>
<td>contains glands whose secretions pass directly into the bloodstream and lymph system</td>
</tr>
<tr>
<td>Pituitary gland</td>
<td>is the master gland at the base of the brain whose hormones influence other endocrine glands</td>
</tr>
<tr>
<td>Pineal gland</td>
<td>helps regulate body rhythms and sleep cycles</td>
</tr>
<tr>
<td>Thyroid glands</td>
<td>helps regulate the rate of metabolism (in the neck)</td>
</tr>
<tr>
<td>Adrenal gland</td>
<td>arouses the body, regulates salt balance, adjusts the body to stress, and affect sexual functioning</td>
</tr>
<tr>
<td>Wernicke's</td>
<td>helps understand communicating</td>
</tr>
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</table>

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