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April 13, 2020

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General Psychology

## **Chapters 7 8 & 10 – REVIEW SHEETS**

- **CHAPTER 7** - Thinking and Intelligence

Cognition

What is it – The mental processes involved in gaining knowledge and comprehension.

What does it include – include thinking, knowing, remembering, judging and problem-solving

Concepts: an abstract idea; a general notion.

Prototype: Best Representation of a concept.

Schemata: a representation of a plan or theory in the form of an outline or model.

Role Scheme

Examples: We expect a waiter to be warm and welcoming.

Event Schema

Examples: Information about her appearance, her behaviors, her personality, and her preferences

What are the components of language – these components work together to create meaningful communication among individuals

Why is language important – every aspect of our lives because it allows people to communicate in a manner that enables the sharing of common ideas

Problem solving strategies –

Trial and Error: Problem- Solving Strategy in which multiple solutions are attempted until the correct one is found.

Algorithm: A process or set of rules to be followed in calculations or other problem-solving operations, especially by a computer.

Heuristic:

Enabling a person to discover or learn something for themselves.

When are heuristics used - quick decisions, particularly when working with complex data

Mental set – functional fixedness

## Summary of Decision Biases

**Anchoring:** cognitive bias where an individual depends too heavily on an initial piece of information offered when making decisions.

**Confirmation:** Is a tendency to search for or interpret information in a way that confirms one's preconceptions, leading to statistical errors.

**Hindsight:** Refers to the common tendency for people to perceive events that have already occurred as having been more predictable than they were before the events took place.

**Representative:** Is a group that closely matches the characteristics of its population.

**Availability:** Mental shortcut that relies on immediate examples that come to a given person's mind when evaluating a specific topic, concept, method or decision.

What exactly is intelligence – includes the ability to benefit from past experience, act purposefully, solve problems, and adapt to new situations.

**Crystallized intelligence:** refers to the ability to use knowledge acquired through past learning or experience.

**Fluid intelligence:** is defined as the ability to solve new problems, use logic in new situations, and identify patterns.

**Sternberg's Theory – Triarchic Theory:** Sternberg's theory of intelligence; three facets of intelligence: practical, creative, and analytical

**Practical intelligence:** “Street Smart”

**Analytical intelligence:** Aligned with academic problem solving and computations.

**Creative intelligence:** Ability to produce new products, ideas, or inventing a new, novel solution to a problem.

**Multiple Intelligences – Howard Gardner**

**Linguistic:** The scientific study of language and its structure, including the study of morphology, syntax, phonetics, and semantics

**Logical mathematical:** learning style refers to your ability to reason, solve problems, and learn using numbers, abstract visual information, and analysis of cause and effect relationships

**Musical:** Enables us to recognize, create, reproduce, and reflect on music, as demonstrated by composers, conductors, musicians, vocalist, and sensitive listeners.

**Bodily kinesthetic:** involves how well an individual controls her body in terms of physical activity and/or fine motor skills.

**Spatial:** Has been defined "the ability to generate, retain, retrieve, and transform well-structured visual images"

**Interpersonal:** It involves effective verbal and nonverbal communication, the ability to note distinctions among others, sensitivity to the moods and temperaments of others, and the ability to entertain multiple perspectives.

**Intrapersonal:** Intelligence involved in self-understanding and in reflecting upon oneself, one's skills, one's motives, and so forth

**Natural:** focuses on how people relate to their natural surroundings. Naturalists have a special ability to grow plants, vegetables and fruit.

How might one's understanding of intelligence be relate to culture?  
Evaluating by their traditions, Comparing and contrasting yours to them.

**Creativity**

Divergent thinking: Ability to think outside the box

Convergent thinking: Providing correct or established answers to problems

**Wechsler's IQ tests – WISC-**

What is measured on this IQ test – generally describes a score on a test that rates the subject's cognitive ability as compared to the general population

What is the bell curve - A set of data in which the majority of scores are clustered around the mean, and there are fewer scores the farther they are from the mean.

Why do we measure intelligence - measure of intelligence that is adjusted for age.

**Nature vs. Nurture** Nature: refers to all of the genes and hereditary factors that influence who we are—from our physical appearance to our personality characteristics.

Nurture: refers to all the environmental variables that impact who we are, including our early childhood experiences, how we were raised, our social relationships, and our surrounding culture.

**What are learning disabilities –**

**Dysgraphia:** is a transcription disability, meaning that it is a writing disorder associated with impaired handwriting, orthographic coding, and finger sequencing

**Dyslexia:** is a neurological condition, not a mental disorder. It affects learning ability in people of normal and above-average intelligence

- **Chapter 8** – Memory

#### What is memory

the faculty of the brain by which data or information is retrieved when needed after being encoded and stored. one aspect of it deals with the retention of information over time for the purpose of influencing future action.

What does it mean to encode something – information or a skill: Encoding is the process of using letter/sound knowledge to write. If a student were to write that same sentence, instead of making sense of the letters in text, it is necessary to recall sounds and the symbols assigned to them to write the letters together to form words.

What is the difference between automatic and effortful processing: Automatic occurs unconsciously (you are not aware of it) Effortful processing requires attention and awareness like when we study in class or memorize a poem.

#### Types of Encoding Semantic

Visual: Semantics concerns the meanings of words, signs, symbols, and the phrases that represent them. More specifically, it is the study of meanings through the relationships of words, how they are used, and how they are said.

Acoustic: Is the process of remembering and comprehending something that you hear. Repetition of words or putting information into a song or rhythm uses acoustic encoding.

#### Storage

Sensory memory: Is the shortest-term element of memory. It is the ability to retain impressions of sensory information after the original stimuli have ended.

Short term memory: The capacity for holding, but not manipulating, a small amount of information in mind in an active, readily available state for a short period of time.

Long term memory: a relatively permanent information storage system that enables one to retain, retrieve, and make use of skills and knowledge hours, weeks, or even years after they were originally learned.

#### Implicit memories (non-declarative memory)

Example: is composed of implicit and procedural memory. In contrast, procedural memory allows for the learning and long-term retention of specific motor actions and responses, e.g., riding a bicycle or tying a shoelace.

Procedural memory: is a part of the long-term memory that is responsible for knowing how to do things, also known as motor skills. As the name implies, procedural memory stores information on how to perform certain procedures, such as walking, talking and riding a bike

Emotional conditioning: The term conditioned emotional response can refer to a specific learned behavior or a procedure commonly used in classical or Pavlovian conditioning research. It may also be called "conditioned suppression" or "conditioned fear response."

Explicit memories

Example: is one of the two main types of long-term human memory. Explicit memory involves conscious recollection, compared with implicit memory, which is an unconscious, unintentional form of memory.

Episodic memory: Is a person's unique memory of a specific event, so it will be different from someone else's recollection of the same experience. Episodic memory is sometimes confused with autobiographical memory, and while autobiographical memory involves episodic memory, it also relies on semantic memory.

Semantic memory: Semantics concerns the meanings of words, signs, symbols, and the phrases that represent them. More specifically, it is the study of meanings through the relationships of words, how they are used, and how they are said.

Retrieval: Retrieval is the process in which information in your memory can be recalled. Information concerning events, images and feelings are all stored in our memory.

Recall: Recall in memory refers to the mental process of retrieval of information from the past. Along with encoding and storage, it is one of the three core processes of memory

Recognition: a form of remembering characterized by a feeling of familiarity when something previously experienced is again encountered; in such situations a correct response can be identified when presented but may not be reproduced in the absence of such a stimulus.

The role of the following parts of the brain

Amygdala: a roughly almond-shaped mass of gray matter inside each cerebral hemisphere, involved with the experiencing of emotions.

Hippocampus: is a complex brain structure embedded deep into temporal lobe. It has a major role in learning and memory. It is a plastic and vulnerable structure that gets damaged by a variety of stimuli.

Cerebellum and prefrontal cortex: The cerebellum is known to project via the thalamus to multiple motor areas of the cerebral cortex.

Neurotransmitters: Neurotransmitters are endogenous chemicals that enable neurotransmission. It is a type of chemical messenger which transmits signals across a chemical synapse, such as a neuromuscular junction, from one neuron to another "target" neuron, muscle cell, or gland cell.

Amnesia: a partial or total loss of memory

Suggestibility: is the state where a subject is inclined (and willing to accept) the actions or

suggestions of others. ... For example, the teenager had high levels of suggestibility and would do anything their friends told them to do.

Memory Errors - 7 types according to Schacter

- 1.transience
2. absent-mindedness
- 3.blocking
4. misattribution
- 5.suggestibility
6. bias
- 7.persistence

- **Chapters 10** – Emotion and Motivation

Intrinsic: belonging naturally; essential

Example: Doing sports because you enjoy feeling alive.

Extrinsic: not part of the essential nature of someone or something; coming or operating from outside.

Example: Like praise, fame, or money

Are our emotions clearly only intrinsic or extrinsic or are they a mix of both? Why or why not  
Our motivations are often a mix of both intrinsic and extrinsic factors, but the nature of the mix of these factors might change over time

Self-efficacy and Social motives

Self- efficacy: reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment.

Social motives: refers to the human need to interact with other humans and to be accepted by them. These interactions are social behaviors that address, either directly or indirectly, other people with the purpose of soliciting a response.

Maslow's Hierarchy of Needs - Define the levels (5)  
physiological, safety, love, esteem, and self-actualization.

Physiological drives –

Hunger and satiation are sensations. Hunger motivates the consumption of food. Satiety is the absence of hunger; it is the sensation of feeling full. Appetite is another sensation experienced with eating; it is the desire to eat food.

The role of leptin: is a hormone, known as the 'satiety hormone', because it plays an important role in appetite and weight control. It is mostly produced in white fat deposits in the body and secreted into the bloodstream, where it travels to the hypothalamus in the brain and decreases appetite.

Ultimately, activity in what part of the body determines whether or not we engage in feeding behavior?

Metabolic rate: Refers to the amount of energy that a body uses in a single day. It is measured in kilocalories and expressed as kcal/day. It is considered medically desirable to have less body fat and more muscle and this is reflected in an increased Metabolic Rate.

Obesity: is a condition marked by excess accumulation of body fat. Genetic factors play a key role in obesity, but so do behavioral factors — especially eating too much and exercising too little. Obesity can lead to diabetes, heart disease, sleep apnea and other problems.

What is Prader-Willi Syndrome: is a genetic disorder usually caused by deletion of a part of chromosome 15 passed down by the father.

The most common symptoms of Prader-Willi syndrome are behavior problems, intellectual disability, and short stature. Hormonal symptoms include delayed puberty and constant hunger leading to obesity.

Eating Disorders

Bulimia nervosa: is an eating disorder marked by bouts of out-of-control binge-eating followed by self-induced vomiting or use of laxatives or diuretics to purge. People with bulimia often have coexisting psychological illnesses, such as depression, anxiety, or substance use disorder.

Anorexia nervosa: is characterized by a distorted body image, with an unwarranted fear of being overweight.

Binge eating disorder: can have causes that aren't due to underlying disease. Examples include overindulging at holiday celebrations or consuming lots of calories preparation for an athletic event such as a marathon.

What region of the brain plays a role in sexually motivated behaviors?

hypothalamus called the medial preoptic area completely disrupt a male rat's ability to engage in sexual behavior.

Sexual orientation: also refers to a person's sense of identity based on those attractions, related behaviors and membership in a community of others who share those attractions.

**Gender Identity:** refers to “one's sense of oneself as male, female, or transgender”

**Emotion** – is often defined as a complex state of feeling that results in physical and psychological changes that influence thought and behavior.

**Mood** – an affective state. In contrast to emotions or feelings, moods are less specific, less intense and less likely to be provoked or instantiated by a particular stimulus or event.

### Components of emotion

1. subjective experience
2. cognitive processes
3. expressive behavior

### Theories of emotion

**James-Lange Theory** proposes that you will interpret your physical reactions and conclude that you are frightened ("I am trembling. According to the James-Lange theory, you then interpret your physical reactions to the stimulus as fear.

**Cannon-Bard Theory:** The main concepts of the Cannon–Bard theory are that emotional expression results from the function of hypothalamic structures, and emotional feeling results from stimulations of the dorsal thalamus.

**Schachter-Singer Two Factor Theory:** of emotion focuses on the interaction between physical arousal and how we cognitively label that arousal.

**Lazarus' Cognitive-mediational Theory:** his theory attempts to explain the relationship between cognition, emotion, and stress and focuses on the role of "appraisal".

### The biology of emotions – The Limbic System

**Hypothalamus:** is a small but important structure in the center of the brain. It has two main purposes. The first is to regulate the autonomic nervous system. The second purpose is to work with the pituitary gland to control the endocrine system and release hormones into the blood stream.

**Thalamus:** They are defined by their locations, functions, and anatomy. The thalamus is a structure in the middle of the brain. It is located between the cerebral cortex and the midbrain. It works to correlate several important processes, including consciousness, sleep, and sensory interpretation

**Amygdala:** The amygdala is an almond-shaped section of nervous tissue located in the temporal

(side) lobe of the brain. They are thought to be a part of the limbic system within the brain, which is responsible for emotions, survival instincts, and memory

**Hippocampus:** The hippocampus is a small, curved formation in the brain that plays an important role in the limbic system. The hippocampus is involved in the formation of new memories and is also associated with learning and emotions. 1 Because the brain is lateralized and symmetrical, you have two hippocampi.

The cultural display rules

What differences exist in the display of emotion between Individuals from the US and Japanese individuals and those from cultures that emphasize social cohesion?

In U.S. individualist culture, high arousal emotions are valued and promoted more than low arousal emotions. in Japan or collectivist culture, low arousal emotions are valued more than high arousal emotions.

Recognition and production of facial expressions

The seven universal facial expressions

1. Disgust
2. Anger
3. Fear
4. Sadness
5. Happiness
6. Surprise
7. Contempt