

## EXAM 1 Study Guide

### YOU KNOW YOU ARE READY FOR THE TEST IF YOU ARE ABLE TO...

- Define psychology and describe the goals that psychologists hope to achieve.
- Describe the history of psychology.
- Discuss the current state of psychology, including the most common perspectives.
- Describe the scientific method and its purpose.
- Discuss descriptive research, correlational research and experimental research – and identify the differences between these three types of research methods.
- Introduce the peripheral nervous system and describe its role in the body.
- Identify some basic structures of the brain and explain their functions.
- Describe some of the basic methods used to observe the structure and activity of the brain.
- Explain what neurons are and how they work to transfer and process information.
- Identify the major groups of neurotransmitters in the brain and describe the behaviors attributed to each.
- Explain some of the basic principles of psychopharmacology, such as dosage, tolerance, withdrawal, and dependence.

**Review Outline: This is an OUTLINE!! You need to fill in the details from your notes in class.**

### **Chapter 1 – The Science of Psychology**

**Definition of Psychology:** Scientific study of Behavior and Mental Processes

What does it mean to be scientific?

**Empirical approach**-gathering knowledge using your senses

**Unbiased**- or objective

**Critical thinking**

**Definition of Behavior**- the way people act, overt actions (right there)

Behavior can be directly observed.

**Definition of Mental processes**-anything that you're thinking, remembering, feeling

Covert- hidden/can't be directly observed.

### **Goals of Psychology**

**Describe:** what...

**Explain:** why...

**Predict:** under what circumstances....

**Control behavior:** how can we change...

### **A brief History**

**Wilhelm Wundt**- "Father of Psychology" interested in what makes up human consciousness

**Structuralism:** describing "the mind" by breaking down thoughts into their most basic idea/elements

**Reaction time:** event → response, assumptions: long reaction time vs. short reaction time

**Introspection:** more subjective method (an apple is red, sweet, smooth)

**Gestalt Psychology:** you can only psychology as a whole

**William James:** functionalism

**Functionalism:** understanding the purpose of thoughts and behavior in an individual's adaptation to the environment. Incorporated natural selection

**John Watson:** behavior is a result of environment, wanted to rid of other methods

**Behaviorism:** the study of observable behavioral responses and the environment that determine those responses

**Watson's Little Albert Experiment:** white rat and loud noise=Albert is scared of white rat

## **Psychology Today**

**Biological:** behavior is a direct result of events in the body

**Behaviorism:** observable behavioral responses

**Psychodynamic:** mental and behavioral problems caused by conflicts between acceptable behavior and unacceptable desires

**Humanistic:** emphasizes free will, self actualization and human nature as growth seeking experience and motivations for behavior

**Cognitive:** study of how we think, remember, can't exactly observe

**Evolutionary:** Focus on *natural selection, adaptation*

**Sociocultural:** Emphasizes social interactions and *cultural determinants* of behavior and mental processes-- specifically, ethnicity, religion, occupation, and socioeconomic status as predictors of behavior

## **Scientific Method**

**Steps of the scientific method**

**Purpose of the scientific method**

## **Research Methods**

**Descriptive research**

**Naturalistic Observation**

**Case Study**

**Surveys**

**Correlational Research**

**Cannot determine cause-effect**

**Characteristics**

**Strength**

**Strong vs. Weak**

**Direction**

**Positive Correlations**

**Negative correlations**

**Correlation Coefficients (r)**

**Experimental Research**

**Can determine cause-effect**

**Operational Definitions**

**Independent variable vs. Dependent variable**

**Experimental group vs. Control group**

## **Chapter 2 – The Brain and Behavior**

**Definition of Nervous system:** The body's electrochemical communication system.

## What is electrochemical communication system?

- : *electrochemical* : Electricity and chemicals to communicate

Definition of Behavioral Neuroscience: the study of how the nervous system affects and controls behavior.

Electrochemical transmission: Communication from nerve cell to nerve cell

Electrical impulse and chemical message

Organization of the nervous system

Central Nervous system

Brain

Forebrain

Midbrain

Hindbrain

Spinal Cord

Peripheral Nervous System

Autonomic: Motor system that *automatically, and involuntarily* activates or inhibits internal organs of the body.

Affects pupils, blood pressure, respiratory rate, heart rate, bladder and bowels, blood flow, sweat, salivation, and hormones

Sympathetic

Parasympathetic

Somatic

Sensory

Motor

Neurophysiology of the Peripheral Nervous system:

Autonomic nervous system – involuntary motor system

Sympathetic: fight or flight, activated when you're nervous or scared, pupils dilate, blood pressure

Parasympathetic: calm relaxation and digestion: activated when you're relaxed, makes you feel calm

Somatic: *Sensory and motor* system that relays information about touch and pain to the central nervous system, and sends messages from the brain to the muscles to produce *voluntary* movement.

Sensory info

Voluntary movement

Neurophysiology of the Brain

Hindbrain structures

Medulla – vital functions

Pons – sleep and arousal

Cerebellum – balance and coordination

Midbrain structures

Tectum and Tegmentum – visual reflexes

Reticular formation – arousal

Brainstem – Medulla, pons, and reticular formation

Forebrain structures