

AP Psychology Unit 1 Study Guide

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1 Learning Target Questions

1.1 How did philosophical and physiological perspectives shape the development of psychological thought?

Philosophy, the study of knowledge, reality, and existence, combined with biology, the science of living organisms, to create psychology, the science of behavior and mental processes.

Bacon and Locke contributed to **empiricism**, the view that knowledge originates from experience and science should only rely on observation/experimentation. Edward Titchener introduced **structuralism**, which used introspection (examining one's own mental and emotional processes) to reveal the structure of the human mind. William James created **functionalism**.¹

Later, the 7 psychological approaches were created.

1.2 Briefly identify the research contributions of major historical figures in psychology.

a. Mary Whiton Calkins - Calkins paved the way for the women in psychology today. She was the second woman to complete the work needed for a PhD in psychology.² She was the first woman to serve as president for the American Psychology Association.

b. Charles Darwin - Darwin is best known for his work in evolutionary theory. He wrote *On the Origin of Species* on natural selection and influenced William James.

c. Dorothea Dix - Dix influenced modern-day perceptions surrounding the mentally ill. She created the first mental hospitals in the US and across Europe and advocated for more funding toward these hospitals.

d. Sigmund Freud - Freud founded psychoanalytic theory and emphasized the unconscious mind. He introduced the well-known concept of defense mechanisms, as well as the id, ego, and superego and transference.

¹Look at William James' section for the definition of functionalism.

²Harvard didn't admit women

e. Stanley Hall - Hall was very influential in early-day psychology. He was the first American to earn a PhD in psychology, the first to open a US psychology lab, and the first president of the American Psychology Association.

f. William James - James was the first educator to offer a psychology course in the US. He was one of the founding fathers of **functionalism** (the idea that mental processes are best understood in terms of their adaptive purpose and function).

g. Ivan Pavlov - Pavlov is famous for the dog salivation study. He found that dogs could be **classically conditioned** (learning in which one learns to associate two or more stimuli and anticipate events) to salivate to the sound of a tuning fork, whistle, or electroshock.

h. Jean Piaget - Piaget is famous for his contributions to child psychology. Piaget's stages of cognitive development include the sensorimotor stage, preoperational stage, concrete operational stage, and formal operational stage.

i. Carl Rogers - Carl Rogers was instrumental in humanistic psychology. He is known for his **client-centered approach** (therapists make clients aware of their underlying motives and defenses, restates, and clarifies). He heavily emphasized growth, fulfillment, and self-actualization. Rogers ushered an **unconditional positive regard**, which is the acceptance and support of a person no matter what they say or do.

j. B.F. Skinner - Skinner was a proponent of **behaviorism** (the idea that behavior is acquired through conditioning). He's famous for the "Skinner box". An animal is placed in a box that has a lever or key that dispenses reinforcement (food) every time it is activated. The idea of **operant conditioning** (behavior is changed through reinforcement or punishment) comes from Skinner.

k. Margaret Floy Washburn - Washburn was the first person to get a doctoral degree in American psychology and the second woman to serve as the American Psychology Association's president. She developed her motor theory, which said thought or consciousness is seen in bodily movements.

l. John B. Watson - Watson established behaviorism.³ He's famous for his "Little Albert" experiment, which used classical conditioning.⁴ Albert was exposed to loud, distressing noises while playing with a rat. Later, he was conditioned to fear the rat, and it generalized to all furry animals.

m. Wilhelm Wundt - Wundt wrote the first psychology textbook, *Principles of Physiological Psychology*, in 1874. In 1879, he opened the first psychology lab at the University of Leipzig. Wundt emphasized **introspection**, or self-examination.

1.3 Briefly describe and compare different theoretical approaches in examining behavior.

Structuralism - Wundt and Titchener promoted it; used introspection to reveal the structure of the mind

³The definition of behaviorism is mentioned in B.F. Skinner's section.

⁴Classical conditioning is mentioned in Ivan Pavlov's section.

Functionalism - promoted by James and influenced by Darwin; explored how mental and behavioral processes enable people to survive and adapt

Gestalt Psychology - emphasizes treating the whole rather than its parts

Perspective	Focus
Behavioral	How we learn observable responses
Biological	How your genes, body, and brain create individual differences and enable experiences
Cognitive	How we encode, process, store and retrieve information
Evolutionary	How the natural selection of traits has promoted the survival of genes
Humanistic	How we meet our needs for love and acceptance and achieve self-fulfillment
Psychodynamic	How behavior springs from unconscious drives and conflicts
Social-cultural	How behavior and thinking vary across situations and cultures

1.4 What are some of the strengths and limitations of applying theories to explain behavior?

Various theories give vantage points for looking at a particular situation, but is incomplete by itself. The biopsychosocial approach solves some of these problems.

1.5 Distinguish the different domains of psychology.

Biological - explore the links between brain and mind.

Clinical - assess and treats mental, emotional, and behavior disorders; administer and interpret tests, provide counseling therapy, and conduct basic and applied research

Cognitive - studies all the mental activities associated with thinking, knowing, remembering, and communicating

Counseling - help people cope with challenges and crises to improve their personal and social functioning⁵

Developmental - study physical, cognitive, and social change throughout the life span

Educational - study how psychological processes affect and enhance teaching/learning

Experimental - test theories of human thoughts, feelings, and actions

Industrial-organizational - apply psychological concepts to optimizing human behavior in workplaces

⁵Just like clinical psychologists, they also administer and interpret tests, provide counseling therapy, and conduct basic and applied research.

Personality - study an individual's characteristic pattern of thinking, feeling, and acting

Psychometric - scientifically study the measurement of human abilities, attitudes, and traits

Social - scientifically study of how we think about, influence, and relate to one another

Positive - scientifically study human functioning with the goal of promoting strengths and virtues that help individuals and communities to thrive

1.6 Differentiate types of research with regard to purpose, strengths, and weaknesses.

Experiments - isolates the effects of one or more variables by manipulating the variable of interest and keeping other variables constant. These allow for hypotheses of cause-and-effect. However, sometimes it is hard to isolate certain desired variables.

Correlational studies - A research project designed to discover the degree to which two variables are related to each other. These cannot prove causation.

Survey research - a technique to ascertain self-reported attitudes/behaviors of a group, usually by questioning a representative, random sample of a group. Surveys look at many cases in less depth, and wording of prompts can affect the results.

Naturalistic observations - observing and recording behavior in naturally occurring situations without trying to manipulate and control the situation. Naturalistic observation can't explain behavior, but can describe it unobtrusively.

Case studies - an individual or group is studied in depth with the hope of revealing universal principles. Many major psychological theories come from case studies. They show us what can happen, and suggest directions to explore in. However, atypical individuals/groups can mislead us. Case studies aren't able to explain behavior.

Longitudinal studies - Research in which the same people are restudied and retested over a long period of time. These studies allow us to see how time affects certain variables, like memory. However, those that live long may have other factors that confound the results.

Cross-sectional studies - People of different ages are compared with one another. This allows us to find the importance of age's effect on certain variables, like intelligence.

1.7 Describe independent, dependent, confounding, and control variables in experimental designs.

Independent Variable - the experimental factor being manipulated and whose effect is being studied

Dependent Variable - the variable that may change in response to manipulations of the independent variable

Confounding Variable - a factor other than the independent variable that might produce an effect in the experiment

Control Variable - the group not exposed to the treatment; serves as a comparison for evaluating the effect of the treatment

1.8 Discuss the value of reliance on operational definitions and measurement in behavioral research.

An **operational definition** is a carefully worded statement of the exact procedures used in a study. These definitions allow others to replicate the research to prove/disprove results.

1.9 Distinguish between random assignment of participants to conditions in experiments and random selection of participants, primarily in correlational studies and surveys.

A **random sample** is a sample in which every person in the entire group has an equal chance of participating. This allows us to try to avoid confounding variables by having a representative sample of a **population** (all those in a group being studied).

Random assignment is assigning participants to experimental and control groups by chance. This helps minimize preexisting differences between the two groups.

Both random sampling and random assignment are ways to minimize confounding variables. The key distinction is random assignment happens *after* you have your sample.

1.10 How does the methodology of the research affect the outcome of the study?

Different methodologies allow us to make different conclusions. For example, descriptive methods, like naturalistic observations and case studies, only allow us to describe our observations. However, inferential methods, like experiments, allow us to establish causation as well as generalize.

1.11 Apply basic descriptive statistical concepts, including interpreting and constructing graphs and calculating simple descriptive statistics.

Measures of central tendency:

- **Mode** is the most frequently occurring score/scores.
- **Mean** is the total sum of all the scores divided by the number of scores (the arithmetic average).

- **Median** is the 50th percentile.

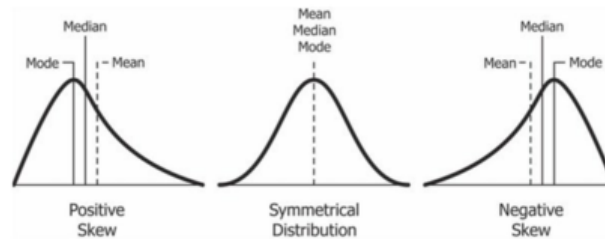
Variation:

- **Range** is the difference between the highest and lowest scores in a distribution.
- **Standard deviation** is a computed measure of how much scores vary around the mean.

Correlation coefficient: a number relating to the association between two variables (from -1.0 to +1.0). A positive correlation (value greater than 0) means an increase in one variable is associated with an increase in the other. A negative correlation (value less than 0) is the opposite. Correlation does not prove causation.

Frequency distribution:

- A **normal distribution** is a bell-shaped curve where most scores fall near the mean (within one standard deviation).
- A bimodal distribution is a distribution that has two peaks (centers).
- A positive skew is a right skew.
- A negative skew is a left skew.⁶



1.12 Distinguish the purpose of descriptive statistics and inferential statistics.

Descriptive statistics are numerical data used to measure and describe characteristics of groups, such as measures of central tendency and variation.

Inferential statistics are numerical data that allows one to generalize. They allow you to come to conclusions and make predictions based on data. Inferential statistics usually comes from a sample.

⁶You can tell which side is skewed by looking at which side has a “tail.”

1.13 Describe how ethical and legal guidelines protect research participants and impact psychological research.

The ethical principles developed by the APA are the following:

1. Obtain participants' **informed consent** (participants are told enough for them to choose whether they'd like to participate).
2. Protect participants from physical or emotional harm and discomfort.
3. Keep information about individual participants confidential.
4. Fully **debrief** (explain the research afterward) people.

Ethical guidelines allow psychologists to juxtapose animal and human behavior. They're able to put their hypotheses to the test.

1.14 Extra Vocabulary

Scientific Method - A series of steps followed to solve problems including collecting data, forming a hypothesis, testing the hypothesis, and stating conclusions

Hypothesis - a tentative explanation/prediction

Theory - a substantiated explanation for an occurrence

Correlational Research -

Double blind study - both research and participants are ignorant about whether the research participants have received the treatment or a placebo

Sample - a set of individuals/objects selected from a population by a defined procedure

Placebo effect - experimental results caused by expectations alone

Placebo - a treatment that has no therapeutic value

Variables - an factor that can vary or change

2 FRQ Example

2.1 Question

Researchers conducted a study in which 10 participants went to a laboratory around dinner time. The researcher assigned students to one of two groups by flipping a coin. Half of the participants were assigned to a "large bowl" group, and half were assigned to a "small bowl" group. By luck of the draw, 4 men and 1 woman were in the "large bowl" group, and 4 women and 1 man were in the "small bowl" group. Participants were told they could take as much pasta as they wanted from a serving bowl in the middle of the table, which was kept at a nearly full level. Participants were encouraged to go back for as many helpings of pasta as they wanted. In order to determine how much food each participant actually ate, the researchers measured the weight of the food that each participant took, as well as the amount that the participants left in their

bowls. The amount of pasta (in grams) each participant ate is shown in the table below:

	Large Bowl	Small Bowl
	424	196
	258	274
	376	148
	387	202
	445	250
Mean	378	214
Standard Deviation	72.6	49.3

- A. Determine the median of the “large bowl” group.
- B. Describe the research technique used to determine the groups.
- C. Explain how the data illustrate differences in variability between the groups.
- D. Explain how a design flaw in this study could be corrected.

2.2 Answer

- A. The median of the “large bowl” group is 387.
- B. The research technique used to determine the groups is random assignment. The researchers used coin flipping (random chance) as a procedure to determine assignment into the large bowl and small bowl groups.
- C. The large bowl group has a larger standard deviation of 72.6 versus the small bowl group’s standard deviation of 49.3. The large bowl has more variability than the small bowl group because its standard deviation is larger.
- D. There were an uneven number of men and women in both the large and small bowl groups. Men and women, on average, eat different amounts of food. The researchers could’ve fixed this by getting more participants, which would’ve made it more likely to have an equal number of men and women in each group.⁷

⁷Another valid response would’ve been talking about how the sample size is too small. This, too, would’ve been fixed with increasing the number of participants.