Psychology's History and Approaches

Empiricism: the view that knowledge originates in experience and that science should rely on observation and experimentation.

Structuralism: an early school of psychology that used introspection to explore the structural elements of the human mind. Introduced by Edward Titchener.

Functionalism: a school of psychology that focused on how our mental and behavioral processes function and how they enable us to adapt, survive, and flourish. Introduced by William James.

Experimental psychology: the study of behavior and thinking using the experimental method.

Behaviorism: the view that psychology (1) should be an objective science that (2) studies behavior without reference to mental processes. Most research psychologists today agree with (1) but not with (2).

Humanistic psychology: historically significant perspective that emphasized the growth potential of healthy people and the individual's potential for personal growth.

Cognitive neuroscience: the interdisciplinary study of the brain activity linked with cognition (including perception, thinking, memory, and language).

Psychology: the science of behavior and mental processes of people and organisms. Wilhelm Wundt established the first psychology lab in Leipzig, Germany.

Nature-Nurture issue: the longstanding controversy over the relative contributions that genes (nature) and experience (nurture) make to the development of psychological traits and behaviors.

Natural Selection: the principle that among the range of inherited trait variations, those contributing to reproduction and survival will most likely be passed on to succeeding generations. Charles Darwin proposed this theory.

Applied research: scientific study that aims to solve practical problems.

Developmental psychology: the scientific study of physical, cognitive, and social change throughout the life span.

Social psychology: the scientific study of how we think about, influence, and relate to one another.

Industrial-Organizational psychology: the application of psychological concepts and methods to optimizing human behavior in workplaces.

Counseling psychology: a branch of psychology that assists people with problems in living (often related to school, work, or marriage) and in achieving greater well-being.

Clinical psychology: a branch of psychology that studies, assesses, and treats people with psychological disorders.

Psychiatry: a branch of medicine dealing with psychological disorders; practiced by physicians who often provide medical (for example, drug) treatments as well as psychological therapy.

Biopsychosocial approach: an integrated approach that incorporates biological, psychological, and social-cultural levels of analysis.

Research and History Key People:

William Wundt: established the first psych lab in Germany.

Edward Titchener: Cornell professor who introduced the school of structuralism by using introspection to search for the mind's structural elements.

William James: Harvard philosopher-psychologist who introduced the school of functionalism by considering the functions of our thoughts and feelings. Wrote the textbook *Principles of Psychology* and tutored Mary Calkins.

Mary Calkins: student of William James who became the first female president of the American Psychological Association. She also became a pioneering memory researcher.

Max Wertheimer: developed the Gestalt perspective.

Psychology's Current Perspectives

School of Thought	Focus	Key People
Behavioral	How we learn observable responses and experiences. **CHANGE THE BEHAVIOR**	John **Watson** (founder of Behaviorism), B.F. Skinner
Psychoanalytic (Psychodynamic)	How behavior springs from unconscious drives and conflicts. **CHILDHOOD → REPRESSED THAT SUBCONSCIOUS**	Sigmund **Freud**
Humanistic	How we strive for personal growth. **TO BECOME YOUR BEST SELF**	Carl Rogers, Abraham **Maslow HIERARCHY OF NEEDS**
Cognitive	How we encode, process, store, and retrieve information. **MENTAL PROCESSES (LEARNING)**	Jean **Piaget**

Biological (Neuroscience)	How the body and brain enable emotions, memories, and sensory experiences	
Evolutionary	How evolution influences behavior	Charles Darwin
Social-Cultural	How **behavior and thinking vary across situations** and cultures	
Gestalt	The organized whole	

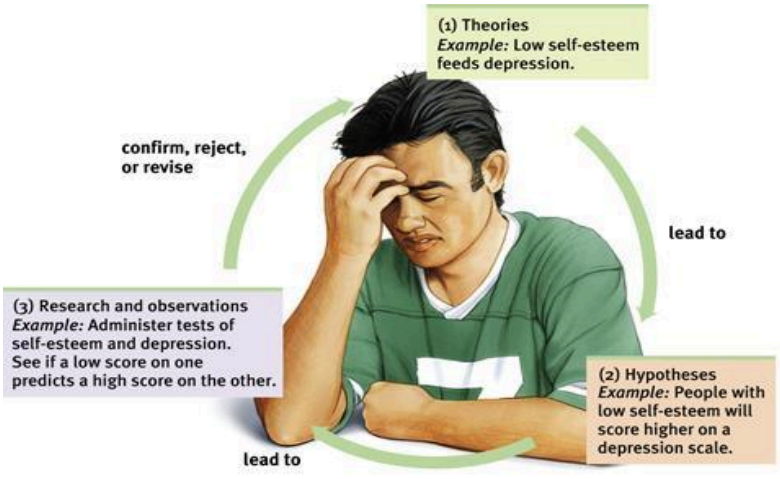
Research Methods

Hindsight bias: the tendency to believe, after learning an outcome, that one would have foreseen it. Also known as the ***I-knew-it-all-along****-phenomenon*. **AFTER**

Overconfidence: the tendency to be **more confident** than correct.

Critical thinking: thinking that does not blindly accept arguments and conclusions. Rather, it examines assumptions, discerns hidden values, and evaluates evidence, and assesses conclusions.

The Scientific Method: a self-correcting process for asking question sand observing nature's answers. QUESTION → HYPOTHESIS → EXPERIMENT → RESULTs → THEORY



Theory: an **explanation** using an integrated set of principles that organizes **observations** and predicts behaviors or events.

Hypothesis: a testable **prediction**, often implied by a theory. Usually an "if-then" statement.

Case study: an **observation** technique in which **one person is studied in depth** in the hope of revealing universal principles. → living with PTSD

Survey: a technique for ascertaining the self-reported attitudes or behaviors of a particular group, usually by **questioning a representative**, random sample of the group. **LIE**

1. Population: all the cases in a group being studied from which samples may be drawn.

2. **Random sample:** a sample that fairly represents a population because each member has an equal chance of inclusion.

3. **Representative sample:** A subset of the population carefully chosen to represent the proportionate diversity of the population as a whole

Naturalistic observation: observing and recording behavior in naturally occurring situations **without trying to manipulate and control the situation**. ***Naturalistic observation doesn't explain, it only describes. A FLY ON THE WALL**

1. **Observer effect: making sure the observer does not have an effect on the person/animal being observed.**

2. **Participation observation: observing a group by blending in. However, the group does not know they are being observed.**

3. **Observer bias:** only recording observations that support your views.

Longitudinal study: studying a person or event over a **long period** of time. Ex. the effects of medications on kids.

Cross sectional study: A study in which people of different ages are **compared** w/one another. Ex. looking at different age groups and what political topics are more important to them.

Experiment: a research method in which an investigator **manipulates one or more factors** (**independent variables**) to observe the effect on some behavior or mental process (the **dependent variable**); makes it possible to study cause and effect relationships.
CONFOUNDING VARIABLE - can't control that AFFECT THE DEPENDENT VARIABLE

Operational definition: specifically names the **operations (steps or procedures)** that the experimenter must use to control or measure the variables in the experiment. This allows the experiment to be replicated.

Replication: repeating the essence of a research study, usually with different participants in different situations, to see whether the basic finding extends to other participants and circumstances.

Random assignment: assigning participants to experimental and control groups by chance, thus minimizing preexisting differences between those assigned to the different groups.

Double-blind procedure: an experimental procedure in which both the research participants and the research staff are ignorant (blind) about whether the research participants have received the treatment or placebo. This is commonly used in drug studies.

Placebo effect: experimental results caused by expectations alone; any effect on behavior caused by administration of a placebo, which the recipient assumes is an active agent.

Experimental group: in an experiment, the group that is exposed to the treatment, to one version of the **independent variable.**

Control group: in an experiment, the group that is **not exposed to the treatment**; contrasts with the experimental group and serves as a comparison for evaluating the effect of the treatment.

Independent variable (IV): the experimental factor that is **manipulated** and tested. Ex. studying the effects of a drug on memory, the drug is the IV.

Dependent variable (DV): the experimental factor that is **being measured**. Ex. studying the effects of a drug on memory, memory is the DV.

Confounding variable: a factor other than the IV that might produce an effect in an experiment. Ex. the temperature of the room, external noises, etc.

Statistics:

Mode: the measure of central tendency that is the most frequently occurring score(s) in a distribution.

Mean: the measure of central tendency that is the arithmetic average of a distribution. It is obtained by adding the scores and then dividing by the number of scores.

Median: the measure of central tendency that is the middle score in a distribution (falls at the 50^{th} percentile); half the scores are above it and have are below it.

Range: the measure of variation that is the difference between the highest and lowest scores in a distribution.

Standard deviation: a computed measure of how much scores vary around the mean score.

Normal curve (normal distribution): a symmetrical, bell-shaped curve that describes the distribution of many types of data; most scores fall near the mean (68% fall with in one standard deviation of it) and fewer and fewer near the extremes.

Statistical significance: a statistical statement of how likely it is that an obtained result occurred by chance.

Correlation: a measure of the extent to which two factors vary together, and thus of how well either factor predicts the other. ***Correlation does not show causation.**

Correlation coefficient: a statistical index of the relationship between two things (from -1 to +1).

Illusory correlation: the perception of a relationship where none exists. Ex. thinking you play better when you wear your lucky socks.

Scatterplot: a graphed cluster of dots each of which represents the values of two variables. The slope of the points suggests the direction of the relationship between the two variables. The amount of scatter suggests the strength of the correlation (little scatter indicates high correlation).

Example for a positive correlation: the more time you spend in the sun, the more likely you are to get sunburned. ***Remember with positive correlations, the two variables go in the same direction. They can be either up or down.** Ex. The more time you spend in the sun, the more likely you are to get burned. **OR** The less time you spend in the sun, the less likely you are to get sunburned.

Example for a negative correlation: the more sunscreen you put on, the less sunburned you will get.

TABLE 2.3

COMPARING RESEARCH METHODS

Research Method	Basic Purpose	How Conducted	What Is Manipulated	Strengths	Weaknesses
Descriptive	To observe and record behavior	Case studies, surveys, or naturalistic observations	Nothing	Case studies require only one participant; surveys may be done fairly quickly and inexpensively (compared to experiments); naturalistic observations may be done when it is not ethical to manipulate variables.	No control of variables; single cases may be misleading
Correlational	To detect naturally occurring relationships; to assess how well one variable predicts another	Compute statistical association, sometimes among survey responses	Nothing	Works with large groups of data, and may be used in situations where an experiment would not be ethical or possible	Does not specify cause and effect
Experimental	To explore cause and effect	Manipulate one or more factors; use random assignment	The independent variable(s)	Specifies cause and effect, and variables are controlled	Sometimes not feasible; results may not generalize to other contexts; not ethical to manipulate certain variables