



PSY 1000
Introduction to Psychology

The Science of Psychology &
Research Methodology

PSY 1000:
Introduction to Psychology

Outline

- Defining Psychology
- Historical Foundations of Psychology
- Contemporary Approaches to Psychology
- Specializations and Careers in Psychology
- Research Methods

Psychology: Defined

Psychology is the scientific study of behavior and mental processes

- Key components of this definition:
 - Scientific study
 - Behavior: outward, overt actions (e.g., talking, facial expressions)
 - Mental Processes: internal, covert actions (e.g., thoughts, feelings, memories)
- Psychologists focus most of their attention on humans but they also study non-human animals

Goals of Psychology

- Description: What is happening?
 - Ex. A teacher notices that one of her students has not been turning in her homework and appears to have a negative attitude toward school
- Explanation: Why is it happening?
 - Ex. The student may be having problems because of a learning disability such as dyslexia
- Prediction: When will it happen again?
 - Ex. The student is likely to continue having trouble unless something is done to change the situation
- Control: How can it be changed?
 - Ex. The student may be given additional instruction using specialized techniques that have been shown to be effective for individuals with dyslexia

Is Psychology Common Sense?

Answer the following 10 questions by writing "T" for True or "F" for False

1. Opposites attract
2. Absence makes the heart grow fonder
3. The greater the reward, the more one will enjoy the task
4. Groups usually make more moderate decisions than a single individual
5. People pull harder in a tug-of-war when part of a team than when by themselves
6. We are less likely to help a person in distress when we are alone than when others are present
7. To change their behavior, people must first change their attitudes
8. If you pick up a baby whenever it cries, you will reinforce its crying
9. Most people would disobey an authority figure if ordered to harm someone
10. Silver medalists are happier than bronze medalists

Is Psychology Just “Common Sense”?

● Hindsight Bias

○ “I-knew-it-all-along phenomenon”

- The results of most psychological research may seem like common sense after you know the result!

- Many of the findings we will discuss this semester may seem obvious after they are discussed

Psychology Then: The History of Psychology

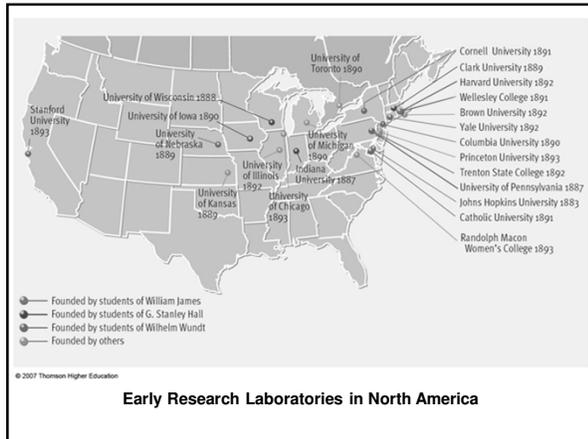
- Prior to 1879
 - Physiology and philosophy scholars studied questions about the mind
- Wilhelm Wundt (1832-1920) University of Leipzig, Germany
 - Campaigned to make psychology an independent discipline
 - Established the first laboratory for the study of psychology in 1879
 - He founded the first psychology journal in 1881
- He is generally regarded as the founder of modern psychology
- Developed the process of **objective introspection** to examine and measure one’s own thoughts and mental activities
 - Wundt tended to focus on the experience of physical sensations
 - Ex. Wundt might place a rock in a participant’s hand and ask him to describe all of the sensations stimulated by the rock



Wilhelm Wundt’s International Influence

- Leipzig was the place to study psychology
 - Graduates of Wundt’s program set up new labs across Europe and North America
- G. Stanley Hall (1846-1924)
 - Established the first psychology laboratory in the U.S. in 1883
- 24 new psychology laboratories were established in North America between 1883 and 1893





Structuralism



- Edward Titchener (1867-1927) was one of Wundt's students
- **Structuralism** believed the task of psychology was to analyze consciousness into its basic elements and investigate how these elements are related
 - He also used the process of systematic introspection but he focused on thoughts as well as physical sensations
 - Ex. He might ask a participant "What is blue?" to which a participant may respond "There are blue things such as a bird or the sky. Blue is also cool and restful. Blue makes me think of..."

Functionalism



- William James (1842-1910) was an American M.D. who was fascinated by psychology
- James disagreed with the view of structuralism
- **Functionalism** was based on the belief that psychology should investigate the function or purpose of consciousness, rather than its structure
 - Example: What is the goal or purpose of specific emotional states?

Functionalism



- Functionalism was greatly influenced by Charles Darwin's (1809-1882) concept of natural selection
 - **Natural selection:** Heritable characteristics that provide a survival or reproductive advantage are more likely than alternative characteristics to be passed on to subsequent generations and thus come to be 'selected' over time
 - Psychological traits – in addition to physical traits – are subject to natural selection
- Darwin's (1859) theory of evolution with its emphasis on the role of natural selection has had a longstanding influence on psychology

Gestalt Psychology

- Max Wertheimer (1880-1943) believed that psychological events such as perceiving and sensing could not be broken down into smaller units and still properly understood
- **Gestalt psychology** focused on studying patterns rather than small pieces of an experience



Psychodynamic Perspective



- Sigmund Freud (1856-1939) was an Austrian physician
- Developed psychoanalytic theory as an attempt to understand mental disorders
 - **Psychoanalytic theory** attempts to explain personality, motivation, and mental disorders by focusing on unconscious determinants of behavior
- Popularized the idea of the unconscious
 - The Freudian **unconscious** contains thoughts, memories, and desires that are well below the surface of conscious awareness but that nonetheless exert great influence on behavior

Freud's Ideas:
Controversy and Influence

- Behavior is influenced by the unconscious
- Unconscious conflict related to sexuality plays a central role in behavior
- Focus on early childhood experiences
- Controversial notions caused debate and resistance
- Significant influence on the field of psychology

Behaviorist Perspective



- John B. Watson (1878-1958) advocated that psychologists should abandon the study of consciousness and focus on observable behavior
 - **Behaviorism** is a theoretical orientation based on the premise that scientific psychology should study only observable behavior
 - **Behavior** refers to any overt (observable) response or activity by an organism
- His rejection of introspection was based on the fact that science is built upon observation...and it is very difficult to "observe" most mental processes
- Adopted an extreme view on the classic "nature vs. nurture" debate in favor of the role played by the environment and experience

Behaviorist Perspective



- B. F. Skinner (1904-1990) was a behaviorist and his work became extremely influential beginning in the 1950s
- He did not deny the existence of internal mental events...but he said that we could not study them
- Further, Skinner believed that we did not need to study mental events because we can describe behavior without resorting to mental events
- Fundamental principle of behavior: Organisms tend to repeat responses that lead to positive outcomes, and they tend not to repeat responses that lead to neutral or negative outcomes
- Developed his techniques working primarily with rats and pigeons

Humanistic Perspective

- Charges that both psychoanalytic theory and behaviorism were de-humanizing
- A new school of thought emerged – Humanism
 - Led by **Abraham Maslow** (1908-1970) and **Carl Rogers** (1902-1987)
- **Humanism** is a theoretical orientation that emphasizes the unique qualities of humans, especially their freedom and their potential for personal growth



Cognitive Perspective

- **Cognition** refers to the mental processes involved in acquiring knowledge
- Basic premise of **Cognitive Psychology** is that human behavior cannot be fully understood without examining how people acquire, store, and process information
- 1950s and 1960s
 - Jean Piaget (1896-1980)
 - Noam Chomsky (born 1928)
 - Herbert Simon (1916-2001)
- Application of scientific methods to studying internal mental events
- Cognitive psychology: the new dominant perspective?



Sociocultural Perspective

- Combines social psychology (i.e., study of groups, social roles, relationships) and cultural psychology (i.e., study of cultural norms, values, and expectations)
 - **Ethnocentrism** refers to viewing one's own group as superior and as the standard for judging
 - Historically: middle- and upper-class White males studying middle- and upper-class White males ("Even the Rat was White")
 - Growing global interdependence
 - Increased cultural diversity

Biopsychological Perspective

- Basic premise of the biopsychological perspective is that an organism's functioning can be explained in terms of bodily structures and biochemical processes that underlie behavior and mental processes

○ James Olds (1922-1976)

- Electrical stimulation of the brain evokes emotional responses in animals



○ Roger Sperry (1913-1994)

- Left and right brain specialization



Evolutionary Perspective

- Central premise: natural selection occurs for behavioral, as well as physical, characteristics
- Developed in the 1980s
 - David Buss, Martin Daly, Margo Wilson, Leda Cosmides, and John Tooby
- Studied natural selection of mating preferences, jealousy, aggression, sexual behavior, language, decision making, personality, and development
- Thought provoking perspective gaining in influence, but not without criticism

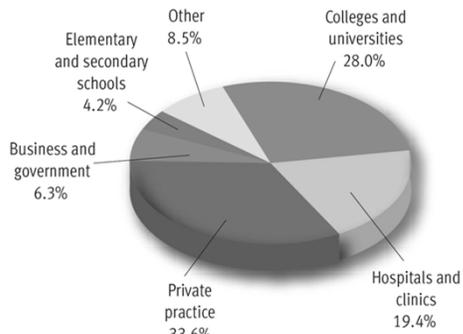
Positive Psychology

- **Positive psychology** uses theory and research to better understand the positive, adaptive, creative, and fulfilling aspects of human existence
 - Positive subjective experiences
 - Positive individual traits
 - Positive institutions and communities
- Humanist concerns revisited

What is a Psychologist?

- A **psychologist** is someone who has earned a Ph.D. in a particular area of psychology (e.g., social-personality psychology)
- A **psychiatrist** has an M.D. and has specialized in the diagnosis and treatment of mental disorders
- A **psychoanalyst** has either a Ph.D. or an M.D. and has received specialized training in the psychoanalytic methods of Sigmund Freud

Where Do Psychologists Work?

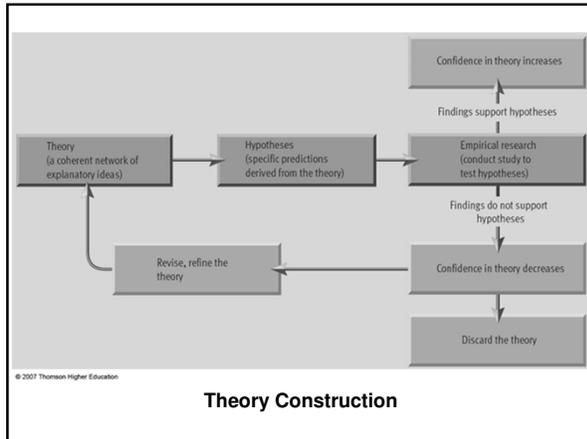


Specialty	Focus of professional practice
Clinical psychology	Clinical psychologists are concerned with the evaluation, diagnosis, and treatment of individuals with psychological disorders, as well as treatment of less severe behavioral and emotional problems. Principal activities include interviewing clients, psychological testing, and providing group or individual psychotherapy.
Counseling psychology	Counseling psychology overlaps with clinical psychology in that specialists in both areas engage in similar activities—interviewing, testing, and providing therapy. However, counseling psychologists usually work with a somewhat different clientele, providing assistance to people struggling with everyday problems of moderate severity. Thus, they often specialize in family, marital, or career counseling.
Educational and school psychology	Educational psychologists work to improve curriculum design, achievement testing, teacher training, and other aspects of the educational process. School psychologists usually work in elementary or secondary schools, where they test and counsel children having difficulties in school and aid parents and teachers in solving school-related problems.
Industrial and organizational psychology	Psychologists in this area perform a wide variety of tasks in the world of business and industry. These tasks include running human resources departments, working to improve staff morale and attitudes, striving to increase job satisfaction and productivity, examining organizational structures and procedures, and making recommendations for improvements.

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Applied Area	Percentage
Clinical	68.8%
Counseling	14.8%
Educational/school	8.4%
Industrial/organizational	5.7%
Other	2.3%

APPLIED AREAS



The Scientific Method: Terminology

- **Operational definitions** are used to clarify precisely what is meant by each variable
- **Participants** or **subjects** are the organisms whose behavior is systematically observed in a study
- **Data collection techniques** allow for empirical observation and measurement
- **Statistics** are used to analyze data and decide whether hypotheses were supported

**Most Commonly Used Research Methods:
How to Study Dreams?**

<p>Observation</p> <p>Not an easy task, but researchers have observed that an individual's eyes move back and forth behind closed eyelids periodically during the night when dreams are occurring.</p>	<p>Survey and Interview</p> <p>Individuals have been asked on surveys and in interviews to report what they dream about.</p>	<p>Standardized Test</p> <p>Psychologists have been ingenious at constructing psychological tests for many phenomena, but dreaming has not been one of them.</p>	<p>Case Study</p> <p>An example is an analysis of all that was said by one individual during an hour in which a dream was related. Assessment might take place periodically during the individual's life.</p>	<p>Correlational Research</p> <p>There have been many correlational studies of dreams. For example, researchers have studied whether dreams are related to age, gender, and a person's cultural experiences.</p>	<p>Experimental Research</p> <p>Fewer experimental than correlational studies of dreaming have been conducted. However, in experimental research, individuals in drug-induced states often report a different profile of dreaming than those not under the influence of drugs.</p>
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Experimental Research:
Looking for Causes

- An **experiment** manipulates one variable under controlled conditions so that resulting changes in another variable can be observed
 - Detection of cause-and-effect relationships
- **Independent variable (IV)**: variable manipulated
- **Dependent variable (DV)**: variable affected by manipulation (we just observe or measure this variable)
 - How does X affect Y?
 - X = Independent Variable
 - Y = Dependent Variable

Recognize the IV and the DV

- Example 1: A researcher is interested in how heart rate and blood pressure are affected by viewing a violent film sequence as opposed to a nonviolent film sequence
- Example 2: A social psychologist investigates the impact of group size on participants' conformity in response to group pressure

Experimental and Control Groups:
The Logic of the Scientific Method

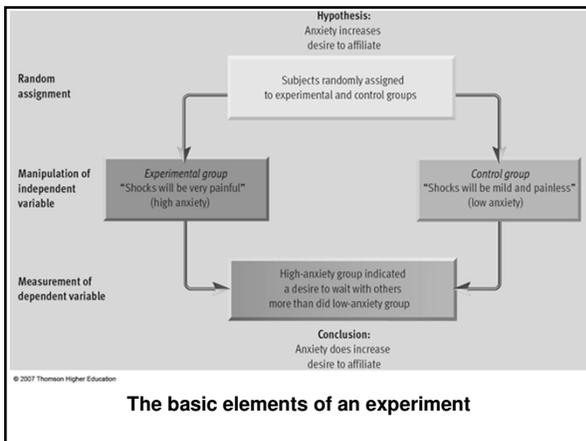
- The **experimental group** consists of the participants who receive some special treatment in regard to the independent variable
- The **control group** consists of similar participants who do not receive the special treatment given to the experimental group

Experimental and Control Groups:
The Logic of the Scientific Method

- **Random assignment** of participants occurs when all participants have an equal chance of being assigned to any group or condition in the study
- Manipulate independent variable for only one group (i.e., the experimental group)
- Resulting differences in the two groups is most likely due to the independent variable

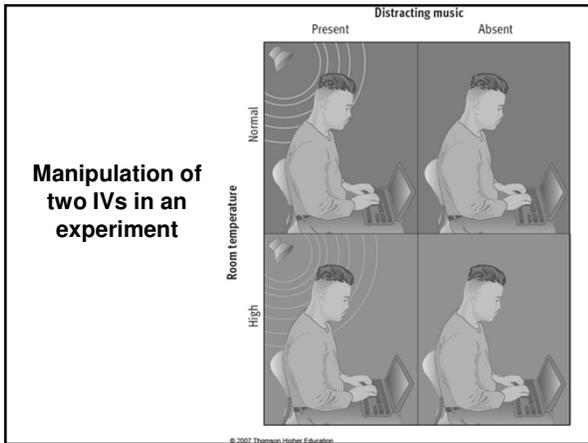
Experimental and Control Groups:
The Logic of the Scientific Method

- **Extraneous variables** are any variables other than the IV that seem likely to influence the DV in a specific study
- A **confounding of variables** occurs when two variables are linked together in a way that makes it difficult to sort out their specific effects



Experimental Designs: Variations

- Expose a single group to two different conditions
 - Reduces extraneous variables
- Use more than one dependent variable
 - Obtains a more complete picture of the effect of the independent variable
- Manipulate more than one independent variable
 - Allows for study of interactions between variables

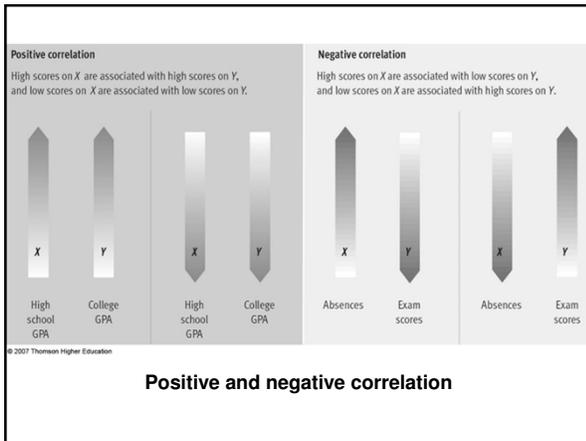


Strengths and Weaknesses of Experimental Research

- Strengths:
 - Conclusions about cause-and-effect can be drawn
- Weaknesses:
 - Artificial nature of experiments
 - Ethical and practical issues

**Descriptive/Correlational Methods:
Looking for Relationships**

- Methods used when a researcher cannot manipulate the variables being studied due to ethical or practical reasons
 - In **naturalistic observation** a researcher engages in careful observation of behavior without intervening directly with the participants
 - A **case study** is an in-depth investigation of an individual participant
 - Example: Freud's case study of "Dora"
 - **Survey research** uses questionnaires or interviews to gather information about specific aspects of participants' background or behavior



**Correlational Methods:
Looking for Relationships**

- **Strengths:**
 - Allow researchers to describe patterns of behavior and discover links or associations between variables
 - Broadens the scope of phenomena that psychologists are able to study
- **Weaknesses:**
 - Cannot imply causation

Correlation:
Prediction, Not Causation

- Higher correlation coefficients lead to an increased ability to predict one variable based on the other
 - SAT/ACT scores are moderately correlated with first year college GPA (approximately +.50)
- 2 variables may be highly correlated but their causal relationship may remain unclear
 - Example: Murder rates and ice cream sales are positively correlated

David G. Myers, Social Psychology, 6ed. Copyright © 1999, The McGraw-Hill Companies, Inc. All Rights Reserved.

When 2 Variables Correlate

X Correlation Y

Murder rates [shaded bar] Ice cream sales

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Possible Explanations

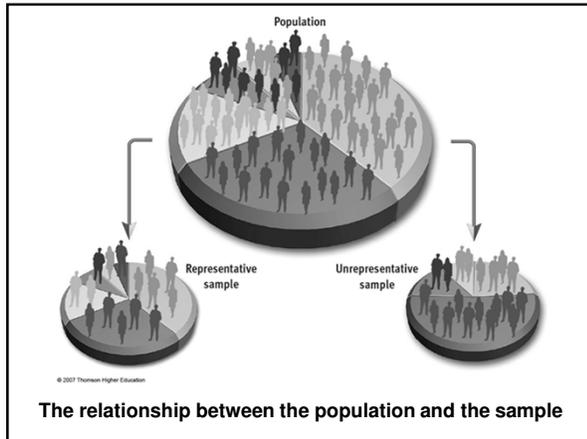
(1) X → Y

(2) Y ← X

(3) X ↗ Z ↘ Y

Evaluating Research:
Methodological Pitfalls

- A **sample** is the collection of participants selected for observation in an empirical study
 - The **population** is the much larger collection of individuals from which the sample is drawn
 - Researchers use the **sample** in order to make generalizations about the **population**
- **Sampling bias** exists when a sample is not representative of the population from which it is drawn
- **Random sampling** refers to giving every member of the population an equal chance of being selected



Evaluating Research:
Methodological Pitfalls

- **Placebo effects** occur when participants' expectations lead them to experience some change even though they receive ineffectual treatment
- Distortions in self-report data:
 - **Social desirability bias** is the tendency to give socially approved answers to questions about oneself
 - A **response set** is a tendency to respond to questions in a particular way that is unrelated to the content of the questions

Evaluating Research:
Methodological Pitfalls

- **Experimenter bias** occurs when a researcher's expectations or preferences about the outcome of a study influence the results obtained
 - The **double-blind** procedure is a research strategy in which neither participants nor experimenters know which participants are in the experimental or control groups
 - **Single-blind** procedure refers to a study in which the participants do not know if they are in the experimental or control groups (but the experimenter does know)

Ethics in Psychological Research:
Do the Ends Justify the Means?

- The question of **deception**
- The question of **animal research**
 - Controversy among psychologists and the public
- **Ethical standards for research**: the American Psychological Association
 - Ensures both human and animal subjects are treated with dignity
