CHAPTER 1

Introduction & Research Methods

Lecture Overview

• Introducing Psychology
• Origins of Psychology
• The Science of Psychology
• Research Methods
• Getting the Most from Your Study of Psychology

Introducing Psychology

• What is psychology?
The scientific study of behavior & mental processes.

SCIENCE

BEHAVIOR

MENTAL PROCESSES
• Psychology focuses on empirical evidence & critical thinking.

• Pseudopsychologies (e.g., psychics, mediums) are nonscientific.

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True or False?

1. Most brain activity stops during sleep.
2. Eyewitness testimony is often unreliable.
3. People with schizophrenia have two or more distinct personalities.
4. Similarity is one of the best predictors of long-term relationships.
5. In an emergency, as the number of bystanders increases, your chance of getting help decreases.
6. We only use 10% of our brains.
Answers

1. Most brain activity stops during sleep.
   - (False  See Chapter 2)
2. Eyewitness testimony is often unreliable.
   - (True  See Chapter 7)
3. People with schizophrenia have two or more distinct personalities.
   - (False  See Chapter 13)
4. Similarity is one of the best predictors of long-term relationships.
   - (True  See Chapter 15)

Answers (cont.)

5. In an emergency, as the number of bystanders increases, your chance of getting help decreases.
   - (True  See Chapter 15)
6. We only use 10% of our brains.
   - (False See Chapter 2)

Psychology’s Four Goals

1. Description: tells “what” occurred
2. Explanation: tells “why” a behavior or mental process occurred
3. Prediction: identifies conditions under which a future behavior or mental process is likely to occur
4. Change: applies psychological knowledge to prevent unwanted behavior or to bring about desired goals
Origins of Psychology

- **Wilhelm Wundt:** “father of psychology”
- **Structuralism:** sought to identify the basic building blocks, or structures, of mental life through introspection (Titchener key leader)
- **Functionalism:** studied how the mind functions to adapt organisms to their environment (James key leader)
Origins of Psychology: Continued

- Psychoanalytic/Psychodynamic Perspective: unconscious processes & unresolved past conflicts
  - **Freud** was key founder

Origins of Psychology: Continued

- Behavioral Perspective: objective, observable environmental influences on overt behavior
  - **Watson & Skinner** were key figures
Conditioning

Ivan Pavlov
- Observable stimuli
- Observable responses (behavior)

Origins of Psychology: Continued

- **Humanistic Perspective**: free will & self-actualization—led to modern field of positive psychology (Rogers & Maslow were key figures)


  All individuals strive to develop and move toward self-actualization

Origins of Psychology: Continued

- **Cognitive Perspective**: emphasizes thoughts, perception, & information processing
- Gather, encode, store, retrieve
Origins of Psychology: Continued

- **Neuroscientific/Biopsychological Perspective:**
  genetics & other biological processes in the brain & other parts of the nervous system

- **Evolutionary Perspective:**
  natural selection, adaptation, & evolution of behavior & mental processes

- **Sociocultural Perspective:**
  social interaction & cultural determinants of behavior & mental processes

- **Biopsychosocial model:**
  combines biological, psychological, & social processes; interacts with the seven major perspectives
What emotion is being conveyed?

• Why do psychologists & other scientists need multiple perspectives? (One possible answer appears on the next slide.)

Pause & Reflect: Critical Thinking

Do You See a Vase &/or Two Faces?

• Multiple perspectives allow psychologists to better understand complex behavior & mental processes.
Origins of Psychology: Continued

Kenneth B. Clark—first African American APA president; he & his wife (Mamie Clark) documented harmful effects of prejudice & influenced Supreme Court ruling against racial segregation in schools.

The Science of Psychology

- **Basic Research:** (in lab) conducted to advance scientific knowledge

- **Applied Research:** (outside of lab) designed to solve practical problems in the real world

Pause & Reflect: Assessment

- Is this an example of basic or applied research?
Scientific Method
Can replicate = greater confidence

1. Literature Review
2. Hypothesis
3. Research Design
4. Statistical Analysis
5. Publish
6. Theory

Pause & Reflect:
Assessment

1. What are the four major goals of psychology?
   - Define
   - Explain
   - Predict
   - Change

2. The _____ perspective focuses on natural selection, adaptation, & evolution.
Research Methods

- Four key research methods:

1. **Experimental**
   - Purpose: Identify cause and effect (e.g., psychology’s goal of explanation).
   - Advantages: Allows researchers to have precise control of conditions and to identify cause and effect.
   - Disadvantages: Ethical concerns, practical limitations, controlled lab conditions, uncontrolled circumstances, reliability, generalization issues.

2. **Descriptive**
   - Purpose: Observe, collect, and record data (e.g., psychology’s goal of description).
   - Advantages: Minimizes artificiality, captures real-life data, allows description of processes as they occur.
   - Disadvantages: Limited or no control of variables, requires time and participant cooperation, cannot infer cause and effect.

3. **Correlational**
   - Purpose: Identify relationships among variables (e.g., psychology’s goal of prediction).
   - Advantages: Helps detect relationships between variables that cannot be examined by other methods and allows prediction.
   - Disadvantages: Cannot establish cause and effect.

4. **Biological**
   - Purpose: Study brain and genetic influence (e.g., psychology’s goal of explanation).
   - Advantages: Minimizes or eliminates all of the disadvantages of experimental, observational, and correlational research.
   - Disadvantages: Limited or no control of variables, requires time and participant cooperation, cannot infer cause and effect.

### Four Key Research Methods

1. **Experimental Research:**
   - Carefully controlled scientific procedure that manipulates variables to determine cause & effect.
Research Methods: Experimental

- Key features of an experiment:

  -- Independent variable (IV) (factor that is manipulated) versus dependent variable (DV) (factor that is measured)
  -- Experimental group (receives treatment) vs. control group (receives no treatment)

Research Methods: Experimental (Continued)

- Potential researcher problems:
  - Experimenter bias: researcher influences research results in his or her expected direction
  - Ethnocentrism: believing one’s culture is typical of all cultures
  - Placebo: simulated intervention

Research Methods: Experimental

- Does TV increase aggression? Only an experiment can determine cause & effect.
Potential participant problems:

- **Sample bias:** research participants are unrepresentative of the larger population
- **Participant bias:** research participants are influenced by the researcher or experimental conditions

One way to offset experimenter & participant bias is to create single- &/or double-blind experimental design.
Research Methods: **Descriptive**

2. **Descriptive Research:**
   - observes & records behavior without producing causal explanations

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Research Methods: **Descriptive (Cont.)**

Three types of descriptive research:
- **Naturalistic Observation:** researchers systematically measure & record participants’ behavior, without interfering
- **Survey:** tests, questionnaires, polls, & interviews that assess a sample or population; gather info from large numbers
- **Case Study:** in-depth study of a single research participant; rare disorders or phenomenon

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Why Study Psychology?

*“Just pretend we’re not here, Mr. Robinson…”*
3. **Correlational Research**: observes or measures (without directly manipulating) two or more variables to find relationships between them

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**Correlational Research: (Continued)**

- Determine degree of relationship (correlation) between 2 variables
- **Strong correlation**: -1 to +1
- **Weak correlation**: close to zero ±0.2
- Does not mean one *causes* other
Why might they be correlated?

Correlational Research: (Continued)

- Can you see why correlation can never show cause & effect?

Pause & Reflect: Assessment

1. We have control over the variables to identify cause and effect
2. Positive: as A increase, B increases. Negative: as A increases B decreases
Research Methods: Biological

4. **Biological Research:**
   scientific studies of the brain & other parts of the nervous system

Tools for Biological Research

- Ablation/Lesions
- Observations/case studies
- Electrical Recordings
- Electrical stimulation of the brain (EBS)

Getting the Most from Your Study of Psychology
Getting the Most from Your Study of Psychology (Continued)

- Six major tools:
  - Familiarization
  - Active Reading (SQ4R)
  - Visual Learning
  - Time Management (baseline & realistic schedule)
  - Distributed Study
  - Overlearning

Which is the Real U.S. Penny?
• Stroop Effect – Test 1

• Stroop Effect – Test 2

GREEN   RED   BROWN   RED
BROWN   GREEN   GREEN   BLUE
GREEN   BROWN   RED   BLUE

Pause & Reflect: Critical Thinking

• Can you see how the lack of active reading (or careful studying) helps explain why most people cannot easily identify the actual U.S. penny despite having seen it thousands of times?
• Do you understand the detrimental effects of multitasking?
• Which of the tips offered in this section do you plan to work on to improve your academic performance?
End of CHAPTER 1

Introduction & Research Methods