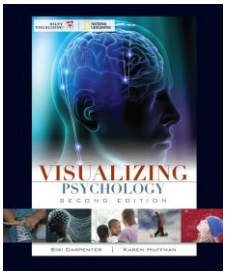
CHAPTER 1

Introduction & Research Methods



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Lecture Overview

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

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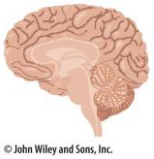
Introducing Psychology

- What is psychology?

  The *scientific study* of behavior & mental processes.

SCIENCE



BEHAVIOR

MENTAL PROCESSES

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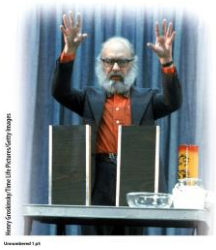
- Psychology focuses on empirical evidence & critical thinking.
- Pseudopsychologies *(e.g., psychics, mediums)* are *non*scientific.



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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.

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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.
   - *(See Chapter 2)*
2. Eyewitness testimony is often unreliable.
   - *(See Chapter 7)*
3. People with schizophrenia have two or more distinct personalities.
   - *(See Chapter 13)*
4. Similarity is one of the best predictors of long-term relationships.
   - *(See Chapter 15)*

Answers (cont.)

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

Careers in Psychology

Sample careers and specialties in psychology Table 1.1	
Biopsychology/neuroscience	Investigates the relationship between biology, behavior, and mental processes, including how physical and chemical processes affect the structure and function of the brain and nervous system
Clinical psychology	Specializes in the evaluation, diagnosis, and treatment of psychological disorders
Cognitive psychology	Examines "higher" mental processes, including thought, memory, intelligence, creativity, and language
Comparative psychology	Studies the behavior and mental processes of nonhuman animals; emphasizes evolution and cross-species comparisons
Counseling psychology	Overlaps with clinical psychology, but generally works with less seriously disordered individuals and focuses more on social, educational, and career adjustment
Cross-cultural psychology	Studies similarities and differences in and across various cultures and ethnic groups
Developmental psychology	Studies the course of human growth and development from conception to death
Educational psychology	Studies the processes of education and works to promote the intellectual, social, and emotional development of children in the school environment
Environmental psychology	Investigates how people affect and are affected by the physical environment
Experimental psychology	Examines processes such as learning, conditioning, motivation, emotion, sensation, and perception in humans and other animals (Note that psychologists working in almost all areas of specialization also conduct experiments)

Table 1.1 part 1

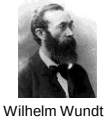
Careers in Psychology

Sample careers and specialties in psychology Table 1.1	
Forensic psychology	Applies principles of psychology to the legal system, including jury selection, psychological profiling, assessment, and treatment of offenders
Gender and/or cultural psychology	Investigates how men and women and different cultures vary from one another and how they are similar
Health psychology	Studies how biological, psychological, and social factors affect health and illness
Industrial/organizational psychology	Applies principles of psychology to the workplace, including personnel selection and evolution, leadership, job satisfaction, employee motivation, and group processes within the organization
Personality psychology	Studies the unique and relatively stable patterns in a person's thoughts, feelings, and actions
Positive psychology	Examines factors related to optimal human functioning
School psychology	Collaborates with teachers, parents, and students within the educational system to help children with needs related to a disability and/or their academic and social progress; also provides evaluation and assessment of a student's functioning and eligibility for special services
Social psychology	Investigates the role of social forces in interpersonal behavior, including aggression, prejudice, love, helping, conformity, and attitudes
Sports psychology	Applies principles of psychology to enhance physical performance

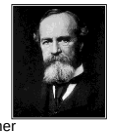
Table 1.1 part 2

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)


Wilhelm Wundt
(1832-1920)


Edward Titchener
(1867-1927)


William James
(1842-1910)

Study Organizer 1.1 Modern psychology's seven major perspectives ✓ THE PLANNER

Perspectives	Major emphases	Sample research questions
Psychodynamic	Unconscious drives, motives, conflicts, and childhood experiences	How do adult personality traits or psychological problems reflect unconscious processes and early childhood experiences?
Behavioral	Objective, observable, environmental influences on overt behavior; stimulus–response relationships and consequences for behavior	How do we learn both our good and bad habits? How can we increase desirable behaviors and decrease undesirable ones?
Humanistic	Free will, self-actualization, and human nature as naturally positive and growth-seeking	How can we promote a client's capacity for self-actualization and understanding of his or her own development? How can we promote international peace and reduce violence?
Cognitive	Thinking, perceiving, problem solving, memory, language, and information processing	How do our thoughts and interpretations affect how we respond in certain situations? How can we improve how we process, store, and retrieve information?
Biological	Genetic and biological processes in the brain and other parts of the nervous system	How might changes in neurotransmitters or damage to parts of the brain lead to psychological problems and changes in behavior and mental processes?
Evolutionary	Natural selection, adaptation, and evolution of behavior and mental processes	How does natural selection help explain why we love certain people while we help or hurt others? Do we have specific genes for aggression and altruism?
Sociocultural	Social interaction and the cultural determinants of behavior and mental processes	How do the values and beliefs transmitted from our social and cultural environments affect our everyday psychological processes?

Study Organizer 1.1

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Origins of Psychology: Continued

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

Sigmund Freud (1856-1939)

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Origins of Psychology: Continued

B. F. Skinner (1904-1990)

- 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

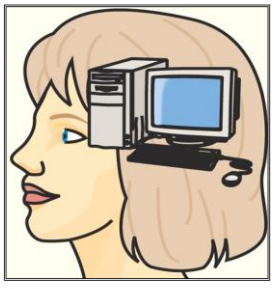
- Humanistic Perspective: free will & self-actualization—led to modern field of positive psychology (Rogers & Maslow were key figures)

Carl Rogers
(1902-1987)

Abraham Maslow
(1908-1970)

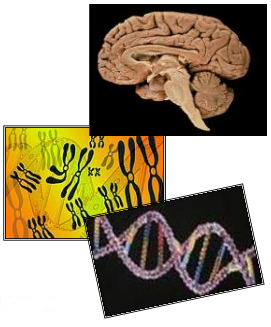
All individuals strive to develop and move toward self-actualization

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

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Origins of Psychology: Continued

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

Natural selection & adaptation to favor behaviors that enhance organism's reproductive success

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

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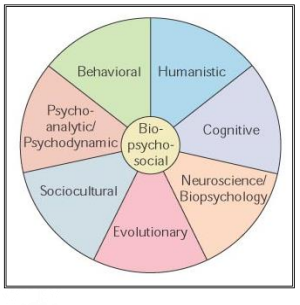
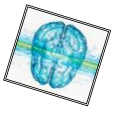
Origins of Psychology: Continued



- Biopsychosocial model: combines biological, psychological, & social processes; interacts with the seven major perspectives

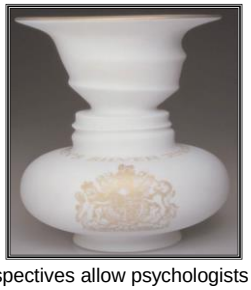
What emotion is being conveyed?



Pause & Reflect: Critical Thinking

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

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

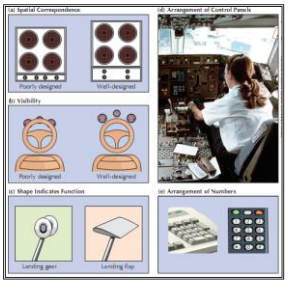
Kenneth Clark (1914–2005) and Mamie Clark (1917–1983) FIGURE 1.6

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

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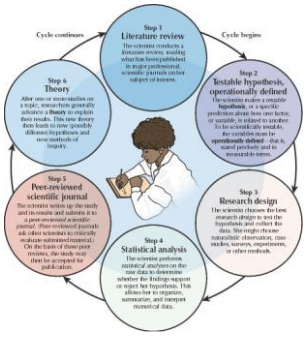

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Pause & Reflect: Assessment

1. What are the four major goals of psychology?

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

Research Methods

- Four key research methods:

1. Experimental — Control variables
2. Descriptive — Observation, survey, case study
3. Correlational — Statistical analysis of relationships
4. Biological — Study brain

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Study Organizer 1.2 Psychology's four major research methods

	Method	Purpose	Advantages	Disadvantages
	**Experimental** (manipulation and control of variables)	Identify cause and effect (meets psychology's goal of *explanation*)	Allows researchers to have precise control over variables and to identify cause and effect	Ethical concerns, practical limitations, artificiality of lab conditions, uncontrolled variables may confound results, researcher and participant biases
	**Descriptive** (naturalistic observation, surveys, case studies)	Observe, collect, and record data (meets psychology's goal of *description*)	Minimizes artificiality, easier to collect data, allows description of behavior and mental processes as they occur	Little or no control over variables, researcher and participant biases, cannot explain cause and effect
	**Correlational** (statistical analyses of relationships between variables)	Identify relationships and assess how well one variable predicts another (meets psychology's goal of *prediction*)	Helps clarify relationships between variables that cannot be examined by other methods and allows prediction	Researchers cannot identify cause and effect
	**Biological** (studies of the brain and other parts of the nervous system)	Identify contributing biological factors (meets one or more of psychology's goals)	Shares many or all of the advantages of experimental, descriptive, and correlational research	Shares many or all of the disadvantages of experimental, descriptive, and correlational research

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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)

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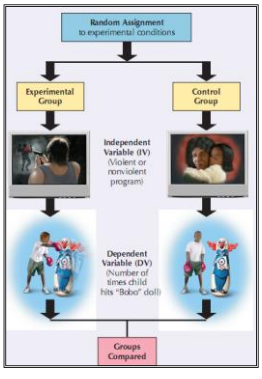
Research Methods: Experimental

- Does TV increase aggression? Only an *experiment* can determine cause & effect.



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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 (Continued)

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

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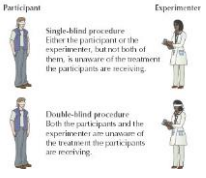
Research Methods: Experimental (Continued)

- One way to offset experimenter & participant bias is to create single- &/or double-blind experimental design.



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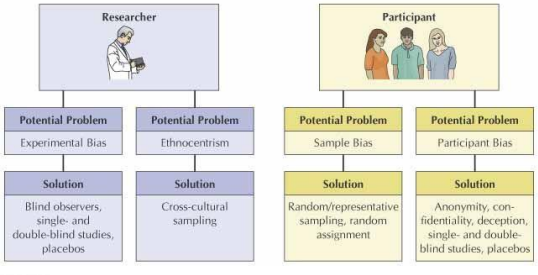
Research Methods: Experimental (Cont.)



Research Methods: Descriptive

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

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

Why Study Psychology?

Research Methods: Correlational

3. Correlational Research: observes or measures (without directly manipulating) two or more variables to find relationships between them

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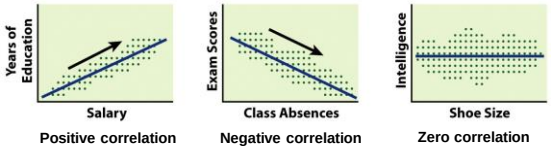
Correlational Research: (Continued)



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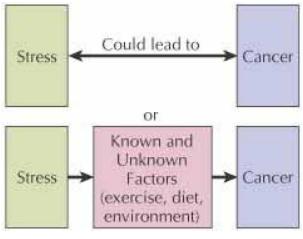
Correlational Research: (Continued)

- 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

Ice cream consumption and drowning are highly correlated. Does that mean that eating ice cream causes drowning?

Why might they be correlated?

Correlational Research: (Continued)



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

Pause & Reflect: Assessment

1. Why is an experiment the only way we can determine cause & effect?
2. What is the difference between a positive correlation & a negative correlation?

Research Methods: Biological

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

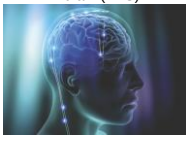
Tools for Biological Research

Ablation/Lesions

Electrical Recordings

Observations/case studies

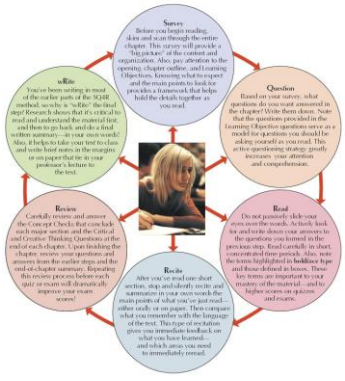
Electrical stimulation of the brain (EBS)



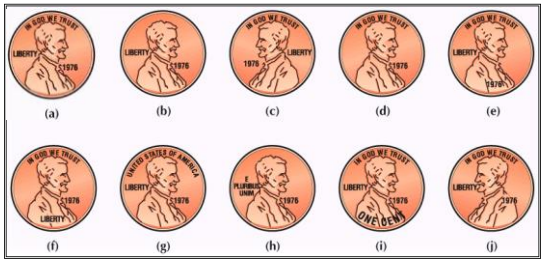
Getting the Most from Your Study of Psychology

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



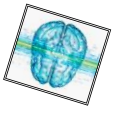
Which is the Real U.S. Penny?



- 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