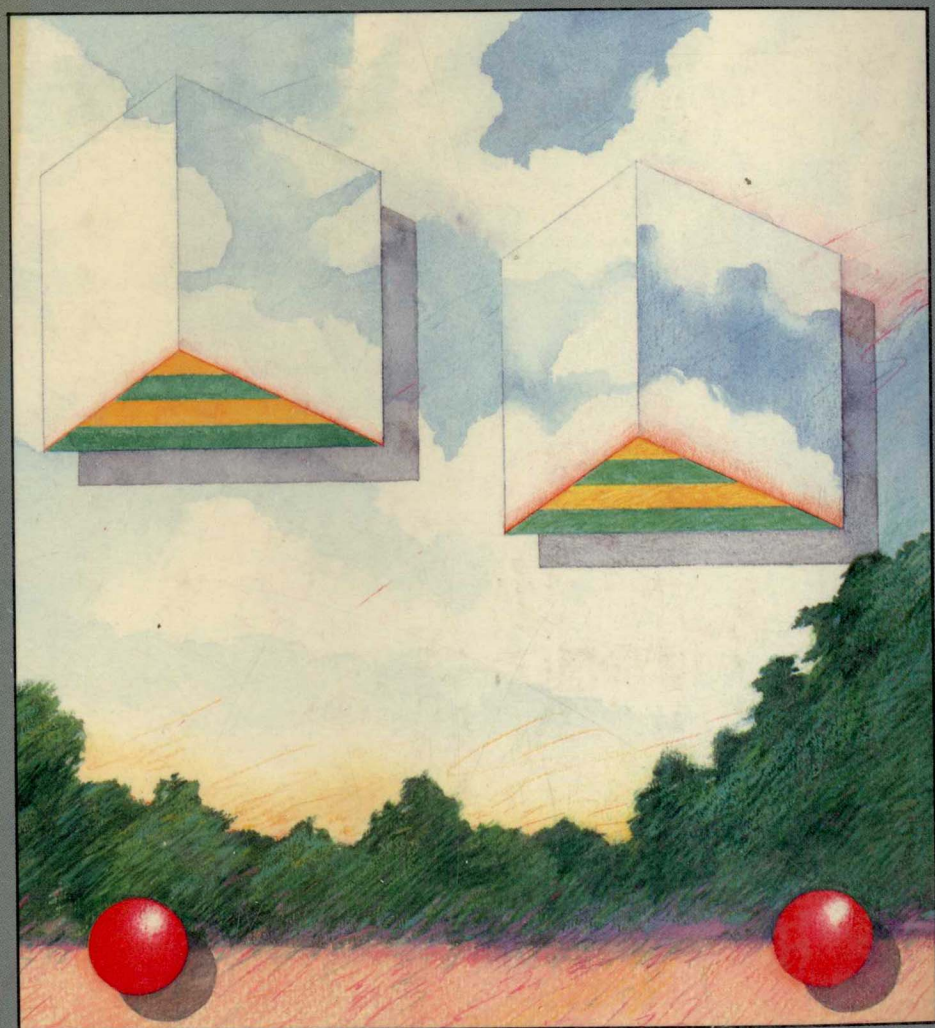


Student Self-Tutor to accompany

UNDERSTANDING PSYCHOLOGY

FOURTH EDITION

Sandra Scarr and James Vander Zanden



Prepared by National Evaluation Systems

Student Self-Tutor

TO ACCOMPANY

Understanding Psychology

FOURTH EDITION

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PREFACE

The *Student Self-Tutor (SST)* is an adaptation of a study strategy called the SQ3R method, devised by psychologists. SQ3R stands for *survey, question, read, recite, and review*. The method is based on a psychological principle stating that *active learning is more effective than passive learning*. In other words, you will learn faster if you are *involved* in doing something than if you *watch* someone else do it. You can be a passenger for years, but you don't really learn to drive a car until you get behind the wheel. When you read a college textbook you may feel like you're just going along for the ride, but with *Understanding Psychology*, the SST will put you in the driver's seat.

Always use your SST with the text. It has fifteen chapters that correspond to the chapters in your textbook. Each chapter in the SST presents an overview of the text chapter, then specific information by section, to help you learn one "piece" of the chapter at a time. When you open your text to the first page of a chapter, open the SST to that chapter as well. Before going ahead with the text chapter, read this information in your SST:

- **Introductory statement**—This statement provides a brief overview of the chapter.
- **Learning objectives**—The objectives will help you to determine the purpose of the text chapter and what you should have learned by the time you finish studying it.
- **Survey**—Survey, the first step of SQ3R, presents a general description of the chapter's content section by section. Each description cites the major headings, presented in quotation marks. For example, in Chapter 1, "What Is Psychology?" the second major section is called "Why Study Psychology?"

After reading the survey section in your SST, thumb through the chapter in your text. Look at the headings and the illustrations and scan the summary at the end of the chapter. This will give you a sense of how the chapter is organized and an introduction to the topics you will be learning about.

Now you are ready to read the chapter section by section using the four remaining steps: question, read, recite, and review. Match the section heading in your SST with the same section heading in your text.

- **Question**—Read the questions in the SST and keep them in mind as you read the section of the text chapter.
- **Read**—Read the designated pages in your textbook. Make mental notes as you discover the answers to the questions in the SST. This question-and-answer approach will help make you an active reader.
- **Recite**—This is the most important step in SQ3R. Your success in using SQ3R will strongly depend on the amount of effort you put into the recitation. By recite, we mean literally *talk out loud*. You can do it alone or with a study partner taking turns. But if you must study silently, as in a library, then try to concentrate—perhaps by staring at a spot on the wall—and do the recitation in your mind. Talk (or think) about the material you have just read.

The "recite" exercises in the SST give you *cues* that tell you what to talk or think about. For example, a cue might say, "Differentiate among instincts, needs, drives, and incentives." Having just read the relevant section in the chapter, you should be able to recite the differences.

Underneath the cue are *reminders* about what you should have said in your recitation. For example, the reminders for this cue might say:

Instincts—innate, fairly rigid patterns of behavior that are triggered by sign stimuli

Needs—things that the organism has to have in order to survive

Drives—influences that push the organism into action in order to satisfy needs

Incentives—perceived rewards in the environment that attract or “pull” the person into activity

Note that the reminders are deliberately printed in small italic type that is difficult to read. You should not try to read them as you are reciting. You’ll get the best results if you recite first, then check what you said against the reminders, and recite again if necessary.

Review—The final step in the *SST* is a brief review to test your understanding and retention of the material in each section. Complete each review question by checking the correct response or writing your response in the space provided. Do this without consulting your textbook. To check your answers, turn to the key in the back of the *SST* chapter. If you get a wrong answer, read and recite again the text that refers to the question you missed.

Remember, keep your *SST* open alongside the textbook as you read. If you follow the directions carefully, you will find yourself working back and forth between the *SST* and the text. This may seem a bit awkward at first, but you will quickly get the hang of it. Reading a text chapter *once* using the *SST* is a far more efficient strategy than reading and underlining a chapter several times over. If used properly, the *SST* will make your studying more effective and more enjoyable, and it will save you time in the long run.

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CHAPTER

1

What Is Psychology?

Chapter 1 provides an introduction to the study of psychology. It presents techniques of psychological research, a brief history of psychology, and recent developments in the study of psychology.

Learning Objectives

1. Identify purposes of studying psychology.
2. Understand issues involved in performing psychological research.
3. Identify methods of psychological research.
4. Know the history of the science of psychology.
5. Identify characteristics of psychology as it exists today.

SURVEY

- The first section of this chapter, entitled “Looking at Life,” presents an example of ordinary behavior from a psychologist’s point of view.
- The section “Why Study Psychology?” explains how psychology may be useful for providing insights and practical information and for testing your intuitions.
- The next section is called “How Psychologists Find the Answers.” It discusses the benefits that may result when psychologists disagree, the importance of asking the right

questions, and the difference between basic and applied psychology.

- “How Psychologists Do Research” describes various research methods, including samples, surveys, experiments, naturalistic observation, case studies, longitudinal studies, and cross-cultural studies.
- “A Brief History of Psychology” provides a chronological overview of various theorists who developed the study of psychology as the study of unconscious processes, individual differences, observable behavior, and cognitive processes.
- The last section of this chapter, “Psychology Today,” focuses on the characteristics and subfields of psychology.

LOOKING AT LIFE

QUESTION How do psychologists view ordinary behavior?

READ Now read pages 4–6 in the text.

RECITE Define *hypothesis*.

- *An educated guess*

REVIEW 1. Psychology is the study of behavior and mental processes.

true _____ false _____

2. Psychologists answer questions on the basis of many observations.

true _____ false _____

WHY STUDY PSYCHOLOGY?

QUESTION How can understanding principles of psychology help you in your daily life?

READ Now read pages 6–8 in the text.

RECITE Name three things that learning about psychology can provide.

- *Insight*
- *Practical information*
- *Test of your intuitions*

REVIEW 3. "Thirty days hath September" is an example of a

4. Most mentally ill people are dangerous.

true _____

false _____

HOW PSYCHOLOGISTS FIND THE ANSWERS

QUESTION How would a psychologist go about answering the question "Does therapy work?"

What are some common beliefs about human behavior?

READ Now read pages 8–12 in the text.

RECITE Define *hypothesis* in terms of psychological research.

- *An educated guess or hunch about the relationship between two variables*

Define *basic science*.

- *The pursuit of knowledge for its own sake in order to satisfy curiosity about the nature of things*

Define *applied science*.

- *The use of basic science to accomplish practical goals*

Identify common beliefs about human behavior.

- *See Figure 1.1 for a list of fifteen common beliefs that psychologists have investigated and found to be false*

REVIEW 5. Chemistry is an example of what type of science?

basic _____

applied _____

6. Engineering is an example of what type of science?

basic _____

applied _____

7. In its early years psychology was generally considered to be an applied science.

true _____

false _____

HOW PSYCHOLOGISTS DO RESEARCH

QUESTION How do psychologists devise methods to investigate behavior?

What are some of the advantages and disadvantages of certain behavioral research methods?

READ Now read pages 12–24 in the text.

RECITE Identify four desirable characteristics of a sample.

- *Representative of the larger population*
- *Unbiased*
- *Not “stacked” or “loaded” in such a way that it does not represent the population*
- *Fairly large*

Describe six methods of psychological research.

- *Surveys—obtaining data through interviews and questionnaires*
- *Experiments—exploring the hypothesized relationships between independent and dependent variables by assigning subjects to treatment and control groups and by manipulating the independent variable*
- *Naturalistic observation—observing behavior in realistic settings without distracting the subjects*
- *Case studies—intensive studies of individuals or groups*
- *Longitudinal studies—studying the same subjects over a long period in order to study stability and change in behavior*
- *Cross-cultural studies—comparing behaviors of subjects from different cultures on the same tasks*

Define *independent variable*.

- *The variable that the researcher can directly control or manipulate; usually, the presumed cause of behavior*

Define *dependent variable*.

- *The variable that will be affected by the independent variable—the outcome of the experiment*

Define correlation coefficient.

- *A measure of the relationship between two variables*

Define self-fulfilling prophecy.

- *A situation in which subjects behave according to the researcher's hypothesis, even though they would not ordinarily behave this way*

Define double-blind procedure.

- *A method of reducing experimenter bias and self-fulfilling prophecies in which neither the research subjects nor the people administering the experimental treatments know which treatment the subject receives*

Define observer effects.

- *Behaviors in which the presence of the researcher affects how the subjects behave*

REVIEW

8. What kind of correlation exists between smoking cigarettes and living a long, healthy life?
positive _____ negative _____
9. In an experiment designed to test the effects of a certain drug, half of the subjects are given the drug and the other half are given placebos. The subjects who received placebos were in which type of group?
experimental _____ control _____
10. A numerical measure of the degree of relationship between two variables or conditions is called a _____.
11. In which kind of experiment does neither the researcher nor the subjects know who has taken a drug and who has taken a placebo?
single-blind _____ double-blind _____

A BRIEF HISTORY OF PSYCHOLOGY

QUESTION

How has the study of psychology changed over the last 150 years?

READ Now read pages 24–30 in the text.

RECITE Identify four historical trends in psychology, the leaders in these movements, and examples of the kinds of things that people involved in these movements would study.

- *The study of unconscious processes—Freud; unconscious motivation, free association, dreams, case histories of people with psychological disorders*
- *The study of individual differences—Galton; tests and measures of individual differences in abilities, attitudes, and personality traits*
- *The study of observable behavior—Pavlov, Watson, Skinner; learning and conditioning in animals and humans*
- *The study of cognitive processes—Wundt, Neisser; mental processes such as memory, reasoning, language, and learning*

REVIEW 12. What theorist developed the technique of free association?

_____ .

13. Modern psychology began with the work of Wilhelm Wundt.

true _____ false _____

14. Theorists who research observable behavior are called

_____ .

PSYCHOLOGY TODAY

QUESTION What kinds of work do today's psychologists do?

READ Now read pages 30–32 in the text.

RECITE Identify nine subfields of psychology and the kinds of things studied in each subfield.

- *Clinical and counseling psychology—diagnosis and treatment of people with adjustment problems (counseling) or more deep-seated psychological problems (clinical)*
- *Personality psychology—personality development and individual differences in personality traits; use of personality tests and measures*

- *Social psychology—ways in which social groups influence behavior*
- *Developmental psychology—how behaviors change or remain stable throughout the life span*
- *Educational psychology—teaching methods, intelligence, problem solving, and memory processes as they relate to educational problems*
- *School psychology—consultation to schools; dealing with children who display behavior and learning problems in school settings*
- *Industrial psychology—application of psychological methods to problems of work productivity, job placement, industrial safety, and design of machinery*
- *Health and health care psychology—behavioral causes of health problems; use of behavioral treatments for people with stress-related problems*
- *Experimental psychology—basic research on such fundamental psychological processes as learning, perception, memory, and brain functions*

REVIEW

15. Social psychologists study groups and the way groups influence individual behavior.

true _____ false _____

16. Most experimental psychologists work with children who are experiencing difficulty in school.

true _____ false _____

ANSWER KEY TO REVIEW QUESTIONS CHAPTER 1

- | | |
|--------------------|-----------------------------|
| 1. true | 9. control |
| 2. true | 10. correlation coefficient |
| 3. mnemonic device | 11. double-blind |
| 4. false | 12. Sigmund Freud |
| 5. basic | 13. true |
| 6. applied | 14. behaviorists |
| 7. false | 15. true |
| 8. negative | 16. false |

CHAPTER

2

Brain and Behavior

Chapter 2 describes how the brain interacts with other body systems to direct behavior and presents several methods scientists use to study various causes of behavior.

Learning Objectives

1. Analyze the structure and functions of the nervous system.
2. Identify techniques used to measure brain activity.
3. Identify components and functions of the endocrine system.
4. Understand concepts resulting from research of animal behavior.
5. Analyze the influences of heredity and environment on human behavior.

SURVEY

- The first section of the chapter, “The Nervous System,” describes the structure of the nervous system and explains how it works. It includes discussions of the old brain, the new brain, and the hemispheres of the brain. This section also includes diagrams depicting various parts of the nervous system.
- “How Psychologists Study the Brain” presents methods of measuring cumulative effects of brain activity and specific brain activities.

- The next section, “The Endocrine System,” describes how the endocrine system works with the nervous system to control bodily processes.
- The section called “The Relationship Between Humans and Animals” explains how the study of animal behavior may be used to learn more about human behavior. Included in the discussion are overviews of two specific fields of study: ethology and sociobiology.
- The last section of the chapter is called “Heredity and Environment.” It explores the roles of heredity and environment in determining human behavior. Topics of discussion include questions psychologists ask, behavior genetics, and studies of family resemblance.

THE NERVOUS SYSTEM

QUESTION Think about all the behaviors involved in the simple act of catching a ball. You must watch the ball, run to the proper place, position the body correctly, extend your arms, and grasp the ball with your hands at just the right time. What mechanisms in your brain allow you to perform a complex task such as this without even thinking about it?

READ Now read pages 40–52 in the text.

RECITE Identify the functions of the following parts of the neuron: dendrites, cell body, the axons, myelin sheath.

- *Dendrites—receive stimulation*
- *Cell body—averages and integrates signals and transmits outgoing impulses*
- *Axons—transmit signals to other neurons; release neural transmitters into the synaptic cleft*
- *Myelin sheath—insulates neurons and speeds the process of neural transmission*

Analyze the five structural divisions of the nervous system and their major functions.

- *Central nervous system—brain and spinal cord, decision-making areas; spinal cord is main transmitter between brain and body*

- *Peripheral nervous system—somatic nervous system controls voluntary movement of skeletal muscles*
- *Autonomic nervous system—controls glands, internal organs, and involuntary muscles; subdivided into the sympathetic and parasympathetic nervous systems*
- *Sympathetic nervous system—activates body systems*
- *Parasympathetic nervous system—reduces body system activity and conserves energy*

Identify the roles of the reticular activation system, the thalamus, the hypothalamus, and the cerebellum.

- *Reticular activation system—controls alertness, attention, and arousal*
- *Thalamus—relays impulses throughout the body*
- *Hypothalamus—controls body temperature, hunger, thirst, sexual arousal, fear, and rage*
- *Cerebellum—controls posture, balance, and coordination*

Identify the functions of the following areas of the cerebral cortex: occipital lobes, temporal lobes, parietal lobes, somatosensory cortex, frontal lobes.

- *Occipital—processes vision*
- *Temporal—processes hearing*
- *Parietal—integrates sensory processes*
- *Somatosensory—controls body sensation and touch*
- *Frontal lobes—controls movement, speech, planning abilities*

Identify differences in the functions of the left and right brain hemispheres.

- *Left hemisphere—controls language, thought, speech, and step-by-step reasoning*
- *Right hemisphere—specializes in control of visual pattern recognition, unstructured thought, and emotions*

REVIEW

1. The subcortex evolved earlier than the cortex in the human brain.

true _____

false _____

2. The motor cortex of the left hemisphere controls which side of the body?

right _____

left _____

3. The thalamus is located in which part of the brain?

cortex _____ subcortex _____

4. The frontal lobes are located in which part of the brain?

cortex _____ subcortex _____

HOW PSYCHOLOGISTS STUDY THE BRAIN

QUESTION What happens in your brain that enables you to learn a specific bit of information or how to perform a specific task? Is this knowledge stored in a particular part of your brain? What methods do psychologists use to answer questions such as these?

READ Now read pages 52–56 in the text.

RECITE Identify and explain three techniques used by psychologists to measure specific brain activities.

- *Single-unit recording*—inserting wires into the brain in order to study electrical activity of neurons
- *Stimulation*—placing electrodes in the brain in order to stimulate activity by electrical charges through the electrode
- *Lesions*—removing parts of the brain surgically and observing changes in behavior

Describe a method used to measure cumulative brain activity.

- *Electroencephalography (EEG)*—placing wires on the surface of the scalp in order to detect brain rhythms that accompany activity, arousal, and certain kinds of brain disorders

REVIEW 5. Psychologists measure the effects of cumulative brain activity by using an _____.

6. Each part of the brain performs a totally unique function.

true _____ false _____

THE ENDOCRINE SYSTEM

QUESTION We often speak vaguely about body chemistry. How do body chemicals make you grow, affect your activity levels, and prepare you for stressful events?

READ Now read pages 56–58 in the text.

RECITE Identify the major function of the endocrine system and how it works.

- *Function—to control body functions by chemical reactions*
- *How it works—chemicals are manufactured by the endocrine system and distributed throughout the body by the blood stream*

Name three major glands in the endocrine system and describe what they do.

- *Pituitary—the “master gland” of the body; controls growth and reproductive activities*
- *Thyroid—affects activity levels and growth*
- *Adrenals—affects arousal, breathing, heart rate; prepares body for stress*

REVIEW 7. The “master gland” of the endocrine system is the

_____.

8. The glands in the endocrine system produce chemicals called

_____.

THE RELATIONSHIP BETWEEN HUMANS AND ANIMALS

QUESTION Have you ever watched a female dog or cat care for her young? How does the behavior of this animal compare with that of a human being? What can researchers learn by studying the behavior of animals?

READ Now read pages 58–64 in the text.