

Science study essay



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Contents

- COM. To order books or for customer service call 1-800-CALL-WILEY (225-5945). ISBN 0-000-00000-0 Printed in the United States of America 10 9 8 7 6 5 4 3 2 1 Copyright © 2000 John Wiley & Sons Study and Review Guide.

TIPS FOR USING THIS STUDY AND REVIEW GUIDE

Congratulations! Your decision to buy and use this study and review guide is an important step toward student success. It is carefully designed to help you learn the most important material in your textbook (in the shortest possible time), to improve your performance on quizzes and exams, and ultimately to help you achieve the highest grade possible in your first introduction to psychology course. This study and review guide is coordinated with your text, *Psychology in Action* (5th ed.), and is divided into seven major sections: Chapter Outlines, Learning Objectives, Key Terms, Active Learning Exercises, Chapter Overview, Self-Tests, and Answers. These seven sections are explained and identified throughout each chapter with the following boxes and icons: **OUTLINE** (Survey & Question) This outline is intended to help you survey the chapter.

As you read through the various sections, write down any questions or comments that come to mind in the space provided. This is a valuable part of active learning and the SQ4R method. It not only makes your reading time more enjoyable and active, but it also increases your retention and understanding of the material.

LEARNING OBJECTIVES (Read, Recite & wRite)

While reading the chapter, stop periodically and recite (or repeat in your own words) the answers to the following learning objectives.

It will also help your retention if you write your answer in the space provided. (Page numbers refer to the text *Psychology in Action*, 5th Ed. Copyright © 2000 John Wiley & Sons Study and Review Guide.

KEY TERMS (Review)

The review step in the SQ4R method is very important to your performance on quizzes and exams. Upon completion of this chapter, you should be able to define the following terms.

ACTIVE LEARNING EXERCISES (Recite)

The recite step in the SQ4R method requires you to be an ACTIVE learner. By completing the following exercises, you will test and improve your mastery of the chapter material, which will also improve your performance on quizzes and exams. Answers to some exercises appear at the end of this study and review guide chapter.

CHAPTER OVERVIEW (Review)

The following CHAPTER OVERVIEW provides a narrative overview of the main topics covered in the chapter.

Like the Visual Summary found at the end of each chapter in the text, this narrative summary provides a final opportunity to review chapter material.

SELF-TESTS (Review & wRite)

Completing the following SELF-TESTS will provide immediate feedback on how well you have mastered the material. In the fill-in exercises,

write the appropriate word or words in the blank spaces. The matching exercise requires you to match the terms in one column to their correct definitions in the other.

For the multiple-choice questions in Practice Tests I and II, circle or underline the correct answer. When you are unsure of any answer, be sure to highlight or specially mark the item and then go back to the text for further review. Correct answers are provided at the end of this study and review guide chapter. Copyright © 2000 John Wiley & Sons

Study and Review Guide ANSWERS The following answers to active learning exercises, fill-ins, matching exercises, and practice tests 1 and 2 provide immediate feedback on your mastery of the material. Try not to simply memorize the answers. When you are unsure of your “guess” or make an error, be sure to go back to the textbook and carefully review.

This will greatly improve your scores on classroom exams and quizzes. Did you notice that most of these sections have terms in parentheses, such as (Survey & Question), (Read, Recite & wRite), and (Review & wRite)? This is because both your study and review guide and text, *Psychology in Action*, are designed around the best-known studying technique—the SQ4R method. The symbols “S, Q, R, R, R” stand for: Survey Before you begin reading each chapter of the text, you should skim it. Note the title, major headings and subheadings, and figure captions. Then read the interim summaries that come before each set of review questions sprinkled throughout the chapter.

Finally, carefully examine the visual summary at the end of the chapter. This survey helps organize the material into a larger unit that will help focus your attention during later careful reading and studying. The “ Survey” step also provides a “ map” or “ big picture” of the chapter contents. If you were new to the United States and planning a car trip from California to New York, you wouldn’t jump in your car and simply start driving. However, most students do jump into their texts and start reading the first page with no idea of what road signs to look for or what lies ahead.

To make the most of your car trip to New York, you would begin with a large map of the entire United States and try to plan the most efficient route. Similarly, since you are “ new” to the country of psychology, you need to begin with a large overall road map—the SURVEY step of the SQ4R method. Question As you are surveying the material, ask yourself questions about what you are going to read. (What did your instructor say about this topic when it was assigned? What questions do the headings and subheadings suggest? What will I learn in this chapter? How can I use this information in my everyday life?) Questions aid retention because they require active participation on your part and increase personal relevance of the material. Read The survey and question procedure provides a natural lead-in to careful reading.

While reading the chapter, attempt to answer the questions you generated, as well as paying close attention to all figures, tables, and boldfaced terms. Read in small units from one major heading to the

next. In Chapter 6 of your textbook, you will note that cramming or massed learning is not a good method for studying, retention, or retrieval of information. Space your studying throughout the time period allocated by your instructor for the assigned chapters. This method of “distributed versus massed practice” has been scientifically proven to be more effective than cramming because you retain more information and will remember it longer. Recite “Recite” means to go over what you just read by orally summarizing, making notes, and/or completing the review questions in the text (and the active learning exercises in this study and review guide).

Have you ever found yourself having to reread sections of a text because your mind wandered off as you were studying? Do you find that you can spend hours studying and yet remember little of what you’ve read? This is because you are not “reciting.” A well-known principle of education states that learning is much more effective when people are actively responding to the material than when they are passive recipients. By orally summarizing, taking notes, completing the review questions and active learning exercises, you will be taking an active role in your studying—and your grades will improve!

Review Reviewing is a combination of the total SQ4R formula. Briefly repeat the survey and questioning you did before you began the chapter, reread all your notes (from the text, your class lecture notes, and notes in this study guide). Check your memory by completing the review questions in the text and the self-tests in this study and review guide.

Copyright © 2000 John Wiley & Sons Study and Review Guide wRite Writing is a very important element in learning. By writing a response and taking notes while reading or listening to lectures, you will retain more than simply listening to a lecture or silently reading a text. This study and review guide is purposely designed in a workbook format to allow space for writing responses to the learning objectives, your definitions for the key terms, your responses to the activities, and your answers to the sample self-tests. Taking this study and review guide with you to class is also an important aid in organizing your lecture notes.

The SQ4R method can be used with any textbook. However, your Psychology in Action (5th ed.) textbook and this study and review guide have been carefully designed to maximize this technique. We hope you will try this method and actively use this study and review guide.

Research finds those students who purchase and USE study guides generally do better on exams and overall course performance. Your text has numerous “ tools for student success,” your instructor is available to assist and inspire you, and this study and review guide is here to guide and support your studying efforts. The next step is yours. Best wishes for an exciting journey in the new country called “ Psychology. ” Karen Huffman/Palomar College Richard Hosey/Palomar College Copyright © 2000 John Wiley & Sons Study and Review Guide C hapter 1 Introducing PsychologyOUTLINE (Survey & Question) This outline is intended to help you survey the chapter. As you read through

the various sections, write down any questions or comments that come to mind in the space provided.

This is a valuable part of active learning and the SQ4R method. It not only makes your reading time more enjoyable and active, but it also increases retention and understanding of the material.

TOPIC NOTES

I. UNDERSTANDING PSYCHOLOGY

A. The Goals of Psychology: To Describe, Explain, Predict, and Change Behavior B.

Areas of Psychology: A Field of Diversity C. Psychology in Your Life: Separating Fact from Fiction

II. PSYCHOLOGICAL RESEARCH

A. Experimental Research: The Study of Cause and Effect Copyright © 2000 John Wiley & Sons Study and Review Guide B.

Research Highlight: Love on a Suspension Bridge C. Nonexperimental Research: Studying the Correlates of Behavior D. Correlation versus Experimental Methods: Which Is Appropriate? E. Evaluating Research: Are the Findings Significant? F. Active Learning: Becoming a Better Consumer of Scientific Research,

III. ETHICS IN PSYCHOLOGY

A.

Research Ethics: Respecting the Rights of Research Participants B.

Animals in Research: Is it Ethical? C. Clinical Practice Ethics: Respecting the Rights of Clients,

IV. SCHOOLS OF PSYCHOLOGY

A. Structuralism and Functionalism: The Earliest Schools B. The Psychoanalytic and Gestalt Schools: European Contributions Copyright © 2000 John Wiley & Sons Study and Review Guide C.

Behaviorism: The Study of Observable Behaviors D. Humanistic Psychology: Emphasizing the Uniqueness of the Individual E. Cognitive Psychology: The Return to Thought Processes F. Psychobiology: The Brain and Behavior G.

The Evolutionary Perspective: Natural Selection and Human Behavior H. Cultural Psychology: The Influence of Culture and Ethnic Practice on Behavior I. Gender and Cultural Diversity: Universal and Culturally Specific Behaviors J. Psychology Today: An Eclectic View LEARNING OBJECTIVES (Read, Recite & wRite) While reading the chapter, stop periodically and recite (or repeat in your own words) the answers to the following learning objectives.

It will also help your retention if you write your answer in the space provided. (Page numbers refer to the text Psychology in Action, 5th Ed.

) 1. Define psychology, and explain overt and covert behavior (p. 4-5). Copyright © 2000 John Wiley & Sons Study and Review Guide 2.

List and discuss the four goals of psychology, and explain the difference between basic and applied research (pp. 5-6). 3.

List and describe the ten major areas of psychology (p. 6-8). 4.

Describe the difference between psychology and pseudopsychology (p. 8-10). 5.

Define or describe the following components related to scientific research in general: research methodology, data, the study of cause and effect, theory, and hypothesis (pp. 10-13). 6. Define or describe the following components related to experimental research: independent and dependent variables, experimental and control conditions, and placebos and their effects (pp. 2-14). 7. List and describe the following possible sources of, and solutions for, bias in research: experimenter bias and the double-blind experiment; ethnocentrism and the need for multiple, culturally different researchers; and sample bias, including the difference between populations and samples, and the need for random assignment of participants to experimental and control conditions (pp. 14-15). 8. List and describe four possible explanations for the results of the Dutton and Aron “bridge study” (p. 16). 9. Discuss the merits and limitations of the following nonexperimental research techniques: naturalistic observation, survey, and case study (pp. 17-19).

Copyright © 2000 John Wiley & Sons Study and Review Guide 10.

Explain the difference between correlational (nonexperimental) and experimental methods of research, and describe the three ways two variables may be correlated (pp. 19-21). 11. Describe the four basic criteria used to ensure that research findings are accurate and legitimate.

Define statistics, and describe the relevance of statistical significance and replication in determining the legitimacy of research results (pp.

22-23). 12. Discuss the issue of ethics in animal research, and describe the following ethical considerations for human research and clinical practice: informed consent, debriefing, deception, and client confidentiality (pp. 23-25). 13.

Describe the similarities and differences between the following major schools of psychology: structuralism, functionalism, psychoanalytic, gestalt, behaviorism, humanistic, cognitive, psychobiology, and evolutionary (pp. 26-32). 14. Define culture, and describe cultural psychology and culture's influence on behavior; discuss how researchers determine whether behavior is culturally universal or culturally specific (pp. 233).

15. List the six perspectives in psychology today, and explain the eclectic approach, which is prevalent in modern psychology (p. 33).

KEY TERMS (Review) The review step in the SQ4R method is very important to your performance on quizzes and exams.

Upon completion of this chapter, you should be able to define the following terms. Applied Research:

_____ Copyright © 2000 John Wiley ; Sons Study and Review

GuideBasic Research:

_____ Behavior:

_____ Behaviorism:

_____ Case Study:

_____ Cognitive Psychology:

_____ Control Condition:

_____ Correlation:

_____ Covert:

-

_____ Culture:

_____ Cultural Psychology:

_____ Copyright © 2000 John Wiley ; Sons Study and Review

GuideData:

_____ Debriefing:

_____ Dependent Variable:

_____ Double-Blind Experiment:

_____ Eclectic Approach:

_____ Ethnocentrism:

_____ Ethology:

_____ Evolutionary Perspective:

_____ Experiment:

_____ Experimental Condition:

_____ Experimenters Bias:

_____ Copyright © 2000 John Wiley ; Sons Study and Review

GuideFunctionalism:

_____ Gestalt:

_____ Gestalt Psychology:

_____ Humanistic Psychology:

_____ Hypothesis:

_____ Independent Variable:

_____ Information Processing Approach:

_____ Introspection:

_____ Naturalistic Observation:

_____ Overt:

_____ Copyright © 2000 John Wiley ; Sons Study and Review

GuidePlacebo:

_____ Placebo Effect:

_____ Population:

_____ Pseudopsychologies:

_____ Psychoanalytic Theory:

_____ Psychobiology:

_____ Psychology:

_____ Psychotherapy:

_____ Replicate:

_____ Research Methodology:

_____ Sample:

_____ Copyright © 2000 John Wiley ; Sons Study and Review

GuideSample Bias:

_____ Sociobiology:

_____ Statistically Significant:

_____ Statistics:

_____ Stimulus:

_____ Structuralism:

_____ Surveys:

_____ Theory:

_____ Unconscious:

_____ Variables:

_____ Copyright © 2000 John Wiley ; Sons Study and Review Guide

ACTIVE LEARNING EXERCISES (Recite) The recite step in the SQ4R method requires you to be an ACTIVE learner. By completing the following exercises, you will test and improve your mastery of the chapter material, which will also improve your performance on quizzes and exams. Answers to some exercises appear at the end of this study guide chapter.

ACTIVE LEARNING EXERCISE I

For each of the three studies:

- Decide whether the study is correlational or experimental.
- If the study is correlational, briefly describe how the variables are related and whether the correlation is positive, negative, or zero. If the study is experimental, identify the independent variable (IV) and dependent variable (DV).

Study I A Dartmouth study found that lifetime earnings for women who graduate from college is approximately the same as that of men who graduate from high school. Study II An Australian study found that MSG does not cause people to be sick, as previously reported.

The researcher informed participants he was studying ingredients in a new soft drink and fed them either MSG or a placebo in the drink. The same number and type of symptoms were found in both the MSG and the placebo groups. Study III USA Today reported a major University study that found couples who live together before marriage are more likely to divorce than couples who don't.

ACTIVE LEARNING EXERCISE II

To help you understand and appreciate the complexity of the experimental method, think of a specific problem or topic that you are interested in studying. For example, “ Does caffeine increase studying effectiveness? ” Now answer the following: 1.

What would be your hypothesis? Copyright © 2000 John Wiley ; Sons Study and Review Guide 2. What would be the independent and dependent variable(s)? 3. List possible experimental controls for the experiment. 4.

Could your hypothesis also be tested with nonexperimental methods? If so, describe them.

ACTIVE LEARNING EXERCISE III

Applying Abstract Thinking (A Cognitive Skill) In Chapter 1 of your textbook, you learned useful research terminology that can be used to also evaluate reports from politicians, advertisers, teachers, the news media, and even close friends. The following exercise will allow you to actively evaluate these sources of information. Read each “ research” report and decide what is the primary problem or research limitation. In the space provided, make one of the following marks: CC = The report is misleading because correlational data are used to suggest causation. CG = The report is inconclusive since there was no control group.

EB = The results of the research were unfairly influenced by experimenter bias. SB = The results of the research are questionable

because of sample bias. _____ 1. William owns a company in New York City that makes shoes for women.

He is concerned with slumping sales and decides to conduct a survey in one of his factories to determine how female employees feel about shoes produced in Italy. _____ 2 . At a major league baseball park, researchers found that beer and soft-drink sales are highest when color advertising is used on all billboards. _____ 3. After failing an important exam in his psychology class, Alex decides to personally interview fellow classmates regarding their opinion of the professor’s teaching techniques. Copyright © 2000 John Wiley ; Sons Study and Review Guide

CHAPTER OVERVIEW (Review)

The following CHAPTER OVERVIEW provides a narrative overview of the main topics covered in the chapter.

Like the Visual Summary found at the end of each chapter in the text, this narrative summary provides a final opportunity to review chapter material. I. Understanding Psychology Psychology is the scientific study of behavior. Psychologists use scientific research methods to investigate overt, or observable, behaviors and covert, or hidden, behaviors such as thoughts and feelings. The goals of psychology are to describe, explain, predict, and change behavior.

Psychologists conduct research and can specialize in several areas, including clinical, counseling, educational, developmental, social, industrial and organizational psychology, and neuropsychology. Basic research studies theoretical issues; applied research seeks to solve

specific problems. II. Experimental Research Research methodology includes experimental techniques designed to investigate cause-and-effect relationships and nonexperimental techniques that describe behavior. An experiment begins with a hypothesis or possible explanation for behavior.

Independent variables are the factors the experimenter manipulates, and dependent variables are measurable behaviors of the participants. Experimental control includes assigning participants to groups and holding extraneous variables constant. III. Nonexperimental Research Research methodology includes experimental techniques designed to investigate cause-and-effect relationships and nonexperimental techniques that provide descriptions of behavior. Nonexperimental research techniques are used to obtain descriptions of behavior.

Naturalistic observation is used to study behavior in its natural habitat.

Surveys use interviews or questionnaires to obtain information about a sample of participants. Individual case studies are in-depth studies of a single participant. Experiments enable us to determine causes for behaviors, whereas correlational relationships only enable us to predict behaviors. Psychologists use statistics to judge whether research findings are significant or due to chance. IV. Ethics in Psychology Psychologists are expected to maintain high ethical standards in their relations with human and animal research participants and in therapeutic relationships with clients.

The APA has published specific guidelines detailing these ethical standards. Copyright © 2000 John Wiley ; Sons Study and Review

GuideV. Schools of Psychology Structuralists sought to identify elements of consciousness and how these elements form the structure of the mind. Functionalists studied how mental processes help individuals adapt to their environment. Freud developed psychoanalytic theory to explain psychological problems reportedly caused by unconscious conflicts.

The Gestalt school studied organizing principles of perceptual processes. Behaviorism emphasizes observable behaviors and the ways they are learned. Humanistic psychology focuses on inner meanings and assumes our nature is positive and growth seeking. Cognitive psychology examines reasoning and mental processes. Psychobiology attempts to explain behavior as complex chemical and biological events in the brain. The evolutionary perspective argues that certain behavioral characteristics have evolved through the process of natural selection.

Cultural psychology studies the influence of culture and ethnic practices on people's behavior.

SELF-TESTS (Review ; wRite)

Completing the following SELF-TESTS will provide immediate feedback on how well you have mastered the material. In the fill-in exercises, write the appropriate word or words in the blank spaces. The matching exercise requires you to match the terms in one column to their correct definitions in the other. For the multiplechoice questions in Practice Tests I and II, circle or underline the correct answer.

When you are unsure of any answer, be sure to highlight or specially mark the item and then go back to the text for further review. Correct answers are provided at the end of this study guide chapter.

FILL-IN EXERCISES

1. Your text defines psychology as the _____ (p. 4).

2. The goals of psychology are to _____ (p. 5). 3.

Basic research studies _____, while applied research is conducted to _____ (pp. 5-6). 4. The causes of behavior can be determined by using the _____ method of research (p. 11).

5. A(n) _____ is a factor that is selected and manipulated by the experimenter and is totally independent of anything the research participant does (p. 12). 6. Generalizability, or the application of research to a group or population, is most directly affected by _____ (p. 15).

Copyright © 2000 John Wiley ; Sons Study and Review Guide 7. When researchers _____ their research participants, they explain the reasons for conducting the research and clear up any misconceptions or concerns (p. 24). 8. Explaining behavior in terms of unconscious drives and conflicts is key to the _____ perspective (p. 29).

9. _____ emphasizes the importance of the inner, subjective self and stresses the positive side of human nature (p. 30). 10.

The six steps in the SQ4R method for active reading are _____, _____, _____, _____, _____, and _____ (p. 38). MATCHING EXERCISES Column

A a. b.

c. d. e. f.

g. h. i. j. Behaviorism Cognitive Psychology Cultural Psychology

Evolutionary Perspective Functionalism Gestalt Psychology Humanistic

Psychology Psychobiology Psychoanalytic Theory Structuralism. 1.

____ 2. ____ 3. ____ 4. ____ 5.

____ 6. ____ 7. ____ 8. ____ 9.

____ 10. ____ Column B Studies how mental processes help adaptation.

Emphasizes influence of the unconscious mind. Focuses on mental processing of information. Focuses on sensations and feelings and perception. Studies the biology of behavior.

Believes the whole is greater than the sum of the parts. Derived from theory of evolution and natural selection. Studies influence of culture and ethnicity on behavior. Focuses on objective or observable behaviors. Emphasizes inner, subjective self and positive nature.

PRACTICE TEST I

1. Which of the following are the goals of psychology? a. describe, manipulate, control, and examine behavior b. describe, explain, predict, and change behavior c. predict, control, examine, and change behavior d. manipulate, control, explain, and change behavior 2.

Basic research is conducted to study _____. a. basic psychological needs such as hunger, socialization, and the need for praise b. theoretical questions that may or may not have real-world applications c. the goals of psychology d.

a specific real-world problem Copyright © 2000 John Wiley ; Sons

Study and Review Guide 3. Applied research is conducted to study _____. a. how people apply knowledge in an educational setting b. theoretical questions that may or may not have real-world applications c. the goals of psychology d.

a specific real-world problem Amanda studies animals to gain insight into human behavior. She is a(n) _____ psychologist. a. comparative b. evolutionary c.

developmental d. interspecies The belief that behavior in your culture is typical of behavior in all other cultures is one definition of _____. a. ideology b.

ethnocentrism c. prejudice d. ethnic typing Only the experiment allows one to investigate _____. a. relationships b. correlations c.

causation d. the goals of psychology An educated guess or a possible explanation for a behavior being studied, that is expressed as a prediction or a statement of cause and effect is a(n) _____. a. correlation b. experiment c. hypothesis d.

theory 4. 5. 6. 7. 8. An experimenter wishes to see if there is a difference between two types of memory techniques.

She teaches one group of participants Technique A and another group Technique B. Then she gives each group a list of words to memorize. Two weeks later she tests the participants to see how many of the words they have remembered. What is the dependent variable in this experiment? a. number of words in the list b.

memory techniques c. sex of the experimenter d. number of words remembered. Copyright © 2000 John Wiley ; Sons Study and Review Guide9. What is the independent variable in the experiment described in the previous question? a. number of words in the list b.

memory techniques c. sex of the experimenter d. number of words remembered 10. When participants are not exposed to any amount or level of the independent variable, they are members of the _____. a. control condition b. experimental condition c. observation group d. out-of-control group 11. The tendency of experimenters to influence the results of their experiment in an expected direction is called _____.

a. experimenter bias b. control bias c. observational bias d. experimental bias 12. When neither the researcher nor the participants in an experiment know whether the treatment or independent variable has been given to any participant, the research design can be called _____.

a. reliable b. double-blind c. valid d.

deceptive 13. When researchers systematically observe the behavior of animals or humans in their natural state or habitat, they are conducting a(n) _____. a. experiment b. naturalistic observation c.

case study d. survey e. 14. _____ is generally credited with being the founder of experimental psychology.

a. Sigmund Freud b. Wilhelm Wundt c. William James d. G. Stanley Hall

Copyright © 2000 John Wiley ; Sons Study and Review Guide 15.

The school of psychology that sought to study the elements of conscious experience was _____. a. b. c. d.

unctionalism Gestalt behaviorism structuralism 16. William James was the leading force in the _____ school of psychology. a. b. c.

d. behaviorist functionalist structuralist humanistic 17. Who developed psychoanalytic theory? a. b.

c. d. Freud James Wundt Watson 18. Gestalt psychology studied the _____. a.

b. c. d. psyche perception of wholes elements of perception patterns of stimulus and response 19. Humanistic psychology emphasizes the _____.

a. b. c. d. psyche perception of wholes positive and growth seeking nature of humans inner thinking processes necessary for human interaction 20.

The information processing approach is used by _____. a. b. c.

d. humanistic psychologists behaviorists functionalists cognitive

psychologists Copyright © 2000 John Wiley ; Sons Study and Review Guide.

PRACTICE TEST II

1. According to your text, _____ uses strict scientific methods to collect, analyze, and interpret information about behavior and mental processes. a. psychology b.

philosophy c. behaviorism d. research methodology You dread going to the grocery store because you got lost there when you were a child.

This illustrates psychology's goal of _____ behavior. a.

describing b. explaining c. predicting d. changing Someone who uses PET scans to compare brain processes in people with and without depression is called a _____. a.

health psychologist b. neuropsychologist c. psychiatrist d. PET technician _____ rely on nonscientific or deliberately fraudulent methods to explain personality. a. Pseudopsychologies b.

Sociologists c. Astronomers d. Counselors A _____ develops from an attempt to explain a set of interrelated data from several studies. a. hypothesis b.

correlation c. research study d. theory In an experiment, the researcher _____. a. isolates a single factor and examines its effects on a behavior b.

controls the dependent variable and measures the independent variable c. deceives subjects, manipulates variables, and makes correlations d. observes one behavior to the exclusion of all other variables 2. . 4. 5.

6. Copyright © 2000 John Wiley ; Sons Study and Review Guide 7. In the statement, “ This causes that,” this is the _____. a.

constant b. independent variable c. dependent variable d. hypothesis

Experimenter bias occurs when the researcher _____.

a. studies only what is interesting to him or her b. changes the results to fit the hypothesis c. unintentionally provides subtle cues about the purpose of the study, which affects the results d. takes credit for the work done by his or her research assistants The total of all possible cases from which a sample is selected is called the _____.

a. subject pool b. population c. selection group d.

ontrol group 8. 9. 10. Someone who systematically records behavior in a participant’s normal habitat is engaged in _____.

a. b. c. d. naturalistic observation voyeurism a case study random

observation 11. The only research method that allows you to make cause-and-effect statements about behavior is the _____.

a. representative survey b. controlled case study c. laboratory observation d.

experiment 12. The relationship between the color of your shoes and your teacher’s mood today can be called a _____. a. spurious

correlation b. zero correlation c. random sampling d.

negative correlation Copyright © 2000 John Wiley ; Sons Study and

Review Guide 13. Sometimes _____ is used in order to create a realistic

situation with genuine reactions from participants. a. trickery b. deception c.

a nonmonetary incentive d. case observation 14. The explanation a research provides to participants about the research process when it is over is called a(n) _____. a.

case conference b. study's footnote c. debriefing d. exit interview 15.

With regard to animal studies in psychology, the use of aversive treatment such as electrical shock is _____. a. extremely rare b. common for species that do not feel pain c. banned by animal care committees d. acceptable only if pain medication is provided 16. Which of the following terms are properly matched? a. b. c. d. psychoanalysis and uniqueness Gestalt and wholeness functionalism and unconscious conflict psychobiology and introspection 17. Observable behaviors are the primary focus in which of the following approaches to psychology? a. b. c. d. humanistic psychodynamic behaviorism cognitive 18.

Someone who believes that behavior is the result of complex chemical and biological events within the brain is called a(n) _____. a.

information processor b. ecological psychologist c. evolutionary psychologist d. psychobiologist Copyright © 2000 John Wiley ; Sons

Study and Review Guide 19. A _____ emphasizes the common evolutionary history of all people and studies the biological bases of social behavior. a. ethologist b. ethnologist c. sociobiologist d.

psychobiologist 20. The induction of alternate states of consciousness is a _____. a. b. c. d. cultural universal practice found only in Western cultures universal practice amongst adolescents, but not adults

relatively new practice in the history of mankind ANSWERS The following answers to active learning exercises, fill-ins, matching exercises, and practice tests 1 and 2 provide immediate feedback on your mastery of the material. Try not to simply memorize the answers. When you are unsure of your “ guess” or make an error, be sure to go back to the textbook and carefully review. This will greatly improve your scores on classroom exams and quizzes.

ACTIVE LEARNING EXERCISE I

Study I correlational, positive correlation; Study II experimental, IV = MSG or placebo, DV = symptoms of sickness; Study III correlational, positive.

ACTIVE LEARNING EXERCISE III

1. SB 2. CG 3. EB FILL-IN EXERCISES 1. scientific study of behavior and mental processes; 2. describe, explain, predict, and change; 3. theoretical questions, answer real-world questions; 4. experimental; 5. Independent variable; 6. sample bias; 7. debrief; 8. psychoanalytic; 9. Humanistic psychology; 10. survey, question, read, recite, review, and wRite. MATCHING EXERCISES a. 9, b. 3, c. 8, d. 7, e. 1, f. 6, g. 10, h. 5, i. 2, j. 4 Copyright © 2000 John Wiley ; Sons Study and Review Guide PRACTICE TEST I 1. b (p.) 2. b (p. 5) 3. d (p. 6) 4. a (p. 7) 5. b (p. 15) 6. c (pp. 11, 21) 7. c (p. 11) 8. d (p. 13) 9. b (p. 12) 10. a (p. 13) 11. a (p. 15) 12. b (p. 15) 13. b (p. 17) 14. b (p. 28) 15. d (p. 28) 16. b (p. 28) 17. a (p. 29) 18. b (p. 29) 19. c (p. 30) 20. d (p. 31) PRACTICE TEST II 1. a (p. 4) 2. b (p. 5) 3. b (pp. 6-8) 4. a (p. 8) 5. d (p. 11) 6. a (p. 11) 7. b (p. 12) 8. c (p. 15) 9. b (p. 15) 10. a (p. 17) 11. d (p. 19) 12. b (p. 20)

13. b (p. 24) 14. c (p. 24) 15. a (p. 24) 16. b (p. 27) 17. c (p. 30) 18. d (p. 31) 19. c (p. 32) 20. a (p. 34) Copyright © 2000 John Wiley ; Sons
Study and Review Guide Chapter 2 The Biological Bases of Behavior

OUTLINE (Survey ; Question)

This outline is intended to help you survey the chapter. As you read through the various sections, write down any questions or comments that come to mind in the space provided. This is a valuable part of active learning and the SQ4R method. It not only makes your reading time more enjoyable and active, but it also increases your retention and understanding of the material.

TOPIC NOTES I. THE NEURON

A. Structure of a Neuron: Three Basic Parts B. Resting Potential and Action Potential: To Transmit or Not to Transmit, That Is the Question II. CHEMICAL MESSENGERS A. Nervous System Messengers: Neurotransmitters B. Research Highlight: The Search for Better Painkillers C. Endocrine System Messengers: Hormones Copyright © 2000 John Wiley ; Sons Study and Review Guide D. The Hypothalamus III.

THE PERIPHERAL NERVOUS SYSTEM

A. The Somatic Nervous System: A Network for Sensory and Motor Messages B. The Autonomic Nervous System: Preparing for Fight or Flight IV.

THE CENTRAL NERVOUS SYSTEM

A. The Spinal Cord: The Link Between the Brain and the Body B. The Brain: The Body's Control Center C. Gender and Cultural Diversity: Sexual Orientation and the Hypothalamus D. Gender and Cultural Diversity: Male and Female Differences in the Brain.

V. STUDYING THE BRAIN

A. Active Learning: Understanding Brain Anatomy and Function B. Anatomical Studies: From Cadavers to Computers C. Lesion Techniques: Studying the Brain Through Systematic Deactivation Copyright © 2000 John Wiley & Sons Study and Review Guide D. Electrical Recording: Measuring Electrical Changes in the Brain E. Electrical Stimulation: Eliciting Brain Activity F. Split-Brain Research: Two Brains Rather Than One G. CAT, PET, and MRI: Techniques That Scan the Brain

LEARNING OBJECTIVES (Read, Recite & wRite) While reading the chapter, stop periodically and recite (or repeat in your own words) the answers to the following learning objectives. It will also help your retention if you write your answer in the space provided. Page numbers refer to the text *Psychology in Action*, 5th Ed.)

1. Define the two major divisions of the nervous system (p. 48).
2. Draw a neuron, label its parts, and describe the function of each part (pp. 48-49).
3. Describe the electrochemical process that changes a resting potential into an action potential, and explain the purpose of the sodium-potassium pump (pp. 49-53).
4. Define neurotransmitter and explain how neurotransmitters act to excite or inhibit action potentials (pp. 53-54).
5. Briefly explain how psychoactive drugs affect the synapse;

describe the problems associated with morphine as a painkiller, and outline the scientific search for a new painkiller (pp. 55-56). Copyright © 2000 John Wiley & Sons Study and Review Guide 6. Describe the endocrine system and its major functions. Discuss the role of the hypothalamus within the endocrine system, and the concept of homeostasis (pp. 56-58). 7. List and describe the functions of the two major subdivisions of the peripheral nervous system (PNS); explain the differences between an afferent and efferent pathway; and describe the interactions between and functions of the parasympathetic and sympathetic nervous systems (pp. 59-62). 8. List the two major subdivisions of the central nervous system (CNS) and describe the functions of the spinal cord (pp. 63-65). 9. Describe the cerebral cortex; identify the location of the four cortical lobes, and describe the functions of each lobe; identify the location of, and describe the function of each of the following cortical areas: motor control, association, projection, Broca's, and Wernicke's (pp. 66-69). 10. Identify the location of the subcortical areas of the brain and describe the functions of each part (corpus callosum, thalamus, hypothalamus, and limbic system); identify the parts of the limbic system involved with memory, aggression, and fear. Describe LeVay's research regarding the brain and sexual orientation (pp. 69-73). 11. Identify the location of the cerebellum and the parts of the brain stem (pons, medulla, and reticular activating system); describe the functions of each of these parts of the brain (pp. 73-74). 12. Describe how male and female brains differ, including tasks that generally favor females and tasks that generally favor males (pp. 75-79). 13. Describe and

explain the use of the following brain research techniques: anatomical dissection, lesion techniques, electrical recording, electrical stimulation, split-brain research, CAT, PET, and MRI (pp. 77-79, 81-83).

Copyright © 2000 John Wiley & Sons Study and Review Guide 14.

Describe the specialized and interdependent functions of the brain's left and right hemispheres (pp. 80-81). KEY TERMS (Review) The review step in the SQ4R method is very important to your performance on quizzes and exams. Upon completion of this chapter, you should be able to define the following terms. Action Potential:

_____ Afferent:

_____ All-or-Nothing Principle:

_____ Association Areas:

_____ Autonomic Nervous System (ANS):

_____ Axon:

_____ Axon Terminal Buttons:

_____ Brain:

_____ Copyright © 2000 John Wiley ; Sons Study and Review

GuideBrain Stem:

-

_____ Broca's Area:

_____ CAT (Computerized Axial Tomography) Scan:

_____ Central Nervous System (CNS):

_____ Cerebellum:

-

_____ Cerebral Cortex:

_____ Corpus Callosum:

_____ Dendrites:

_____ Dyslexia:

_____ Efferent:

_____ Electrodes:

_____ Copyright © 2000 John Wiley & Sons Study and Review

GuideElectroencephalogram (EEG):

_____ Endocrine System:

_____ Frontal Lobes:

_____ Homeostasis:

_____ Hormones:

-

_____ Hypothalamus:

_____ Ions:

_____ Lesion Technique:

_____ Limbic System:

_____ Medulla:

_____ Motor Control Area:

_____ Copyright © 2000 John Wiley & Sons Study and Review
Guide MRI (Magnetic Resonance Imaging):

_____ Myelin:

_____ Nerve:

_____ Neurons:

_____ Neurotransmitters:

_____ Occipital Lobes:

_____ Parasympathetic Nervous System:

_____ Parietal Lobes:

_____ Peripheral Nervous System (PNS):

_____ PET (Positron Emission Tomography) Scan:

_____ Pons:

_____ Copyright © 2000 John Wiley & Sons Study and Review

Guide Projection Areas:

_____ Psychoactive Drugs:

_____ Reflex Arc:

_____ Reflexes:

_____ Resting Potential:

_____ Reticular Activating System (RAS):

_____ Sodium-Potassium Pump:

_____ Soma:

_____ Somatic Nervous System (SNS):

_____ Spinal Cord:

–

_____ Sympathetic Nervous System:

_____ Copyright © 2000 John Wiley & Sons Study and Review
GuideSynapse:

_____ Temporal Lobes:

_____ Thalamus:

_____ Wernicke’s Area:

_____ ACTIVE LEARNING EXERCISES (Recite) The recite step in the SQ4R method requires you to be an ACTIVE learner. By completing the following exercises, you will test and improve your mastery of the chapter material, which will also improve your performance on quizzes

and exams. Answers to some exercises appear at the end of this study guide chapter.

ACTIVE LEARNING EXERCISE I

For each of the following behaviors, identify which of the sensory projection areas would receive incoming neural impulses. Write down the cerebral lobes receiving the input (frontal, parietal, occipital, or temporal). 1. 2. Looking at a picture _____.

Feeling a rough texture with your right hand

_____. 3. Listening to music on headphones

_____. 4. Catching a baseball with your left

hand _____.

5. Reading silently _____.

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ACTIVE LEARNING EXERCISE II

Using information from Chapter 2, fill in the appropriate label or term in the space next to the corresponding number or letter. Copyright © 2000 John Wiley ; Sons Study and Review Guide

ACTIVE LEARNING EXERCISE III

Clarifying Terms and Concepts (A Cognitive Skill) An important element of active learning and critical thinking is clarity of thought. A clear thinker understands that simply defining a term is not evidence of true understanding. One must be able to extend basic definitions to higher, more complex applications. The following exercise will help clarify your understanding of brain terminology and function. The Setting You are a

famous neurosurgeon who specializes in brain damage. In each of the following cases, make a “ diagnosis” (using information from Chapter 2). Case 1: A 56-year-old female has suffered a recent stroke. She speaks in a curious manner resembling fluent