Name:_____ Class:_____ Date:_____

Chapter 02: Conducting Health Research

1. An inactive substance or condition that has the appearance of the independent variable and that may cause participants in an experiment to improve or change behavior due to their belief is called
   a. a nocebo.
   b. a placebo.
   c. a dependent variable.
   d. an experimental design.

ANSWER: b

2. Two research teams are both experimenting with new treatments for a medical condition. In one study, the condition involved currently has no treatment; in the other, there is an accepted treatment, to which the researchers seek alternative and/or improved options. Both studies are comparing an experimental treatment to a placebo. Ethically, what is the most likely opinion?
   a. Both studies are unethical because patient welfare is not the first priority.
   b. The study wherein an accepted standard of care exists may be unethical.
   c. The study wherein no treatment exists for the condition is less ethical.
   d. Both studies are ethical because testing new treatments is necessary.

ANSWER: b

3. Which of these conditions is likely to produce the highest positive placebo effect?
   a. A physician dressed casually in blue jeans and sneakers
   b. A physician who is enthusiastic in describing the treatment
   c. A physician with a reputation for medical errors
   d. A physician who, when prescribing medication, says, "This may not help, but it won't hurt."

ANSWER: b

4. The placebo effect is
   a. most prominently observed in well-designed experiments.
   b. an imaginary effect which can be applicable to everybody.
   c. an imaginary effect occurring almost exclusively in hypochondriacs.
   d. physiologically real and can improve organic or psychological symptoms.

ANSWER: d

5. When a placebo effect is observed in a treatment, what does this most demonstrate?
   a. Objective measures supersede subjective perceptions.
   b. Subjective perceptions supersede objective measures.
   c. Objective and subjective findings can be equally valid.
   d. Subjective perceptions prove treatment effects equally.

ANSWER: c

6. For which of the following symptoms would you expect a placebo to be most ineffective?
   a. Pain
   b. Nausea

Chapter 02: Conducting Health Research

c. Fracture
d. Depression

ANSWER: c

7. Which of these "sugar pills" is likely to have the greatest positive effect?
a. White pills rather than colored pills
b. Very small pills rather than medium-size pills
c. Capsules rather than tablets
d. Generic pills rather than brand-name drugs

ANSWER: c

8. What does research find about the relative effectiveness of placebos?
a. Surgery has more placebo effect than injections.
b. Pills have more powerful effects than injections.
c. Treatments that cost less produce greater effects.
d. Taking more or fewer doses makes no difference.

ANSWER: a

9. Placebos have been known to help
a. reduce insomnia.
b. decrease low back pain.
c. lower high blood pressure.
d. bowel movements.

ANSWER: d

10. To determine whether Drug Z lowers blood pressure, it is necessary to demonstrate that an experimental group, which has been given Drug Z, will have lower blood pressure than a comparison group, which has been given
a. a higher dose of Drug Z.
b. a lower dose of Drug Z.
c. a placebo treatment.
d. no treatment at all.

ANSWER: c

11. Which of these statements is true?
a. Placebo effects can influence both psychological and physical disorders.
b. Valuable research is done by people outside the scientific community, but scientists try to discount the importance of this research.
c. Scientific breakthroughs happen every day.
d. Experimental rather than observational research is required to learn about patterns of disease.

ANSWER: a

12. Using placebos

a. makes it easier to determine the effectiveness of a therapeutic intervention.
b. does not produce any type of unfavorable effect.
c. is easy to control in psychotherapeutic treatment.
d. hampers the evaluation of the effectiveness of treatment programs.

ANSWER: d

13. Research with placebos and nocebos finds that actual physiological changes
a. are unnecessary, as long as the patients feel better.
b. are observed from placebos, but not from nocebos.
c. are present from taking both placebos and nocebos.
d. are observed from nocebos, but not from placebos.

ANSWER: c

14. When neither the participants nor the experimenters know which group has received the treatment and which has received a placebo, the design is called
a. confounding.
b. double-blind.
c. correlational.
d. naturalistic.

ANSWER: b

15. The nocebo effect occurs when
a. participants in a placebo study experience a negative effect.
b. participants in a placebo study experience a positive effect.
c. experimenters use a double-blind study.
d. experimenters use the case-control method.

ANSWER: a

16. Placebos can be beneficial in treating many conditions EXCEPT:
a. depression.
b. hypertension.
c. insomnia.
d. broken bones.

ANSWER: d

17. Patient A was raised to view medical treatments as most effective; Patient B was raised to believe in faith healing and avoid medical treatments. If both patients are given a placebo, what is most likely?
a. The strength of their respective placebo responses should not be affected by the differences in what they believe.
b. Each will have a stronger response to a placebo that seems most similar to their respective preferred treatments.
c. Each will have a stronger response to a placebo that seems most different from the treatments that

each one prefers.

d. Each will have a stronger response to a placebo that seems most different from the treatments that each one prefers.

ANSWER: b

18. A doctor diagnoses Javier with an infection and prescribes a medication to treat it. Among factors contributing to a placebo response, which of the following is more indicative of expectancy than of conditioning?

a. Javier has read that this medication eradicates the infection 100% of the time.

b. Javier has had same medication before and recovered from a similar infection.

c. Javier has had good medical experiences and associates treatment with success.

d. Javier has learned that taking prescribed medication is better than not taking it.

ANSWER: a

19. Cynthia has contracted a rare virus while traveling. Her doctor prescribes a new antiviral drug whose efficacy is unproven as yet, but seems quite promising in early trials. Cynthia has an excellent response to the drug. What is likely in this case?

a. Cynthia's response is more likely due to the placebo effect than the treatment.

b. Cynthia's response is more likely due to the treatment than the placebo effect.

c. Cynthia's response is most likely due to the treatment plus the placebo effect.

d. Cynthia's response is most likely due to neither treatment nor placebo effect.

ANSWER: c

20. The _____ a placebo resembles an effective treatment, the _____ the placebo effect.

a. more; stronger

b. more; weaker

c. less; stronger

d. none of these

ANSWER: a

21. Dr. Smith, a clinical health psychologist, is conducting research on whether relaxation training before a swim meet improves swimmers' race times. It is most likely Dr. Smith is using a _____ design.

a. correlational

b. single-blind

c. double-blind

d. retrospective

ANSWER: b

22. Dr. Jonas is conducting a single-blind experimental study with human participants to investigate a medical procedure's effectiveness. What is true about this research?

a. Dr. Jonas can control for participant expectancy more than in a double-blind design.

b. Dr. Jonas cannot control for participant expectancy as well as in double-blind designs.

c. Dr. Jonas will need to establish the same expectancies for all the participants for control.

d. Dr. Jonas is using a research design that informs participants which treatment they receive.

Chapter 02: Conducting Health Research

ANSWER: c

23. Dr. Singh, a clinical researcher, is conducting a study wherein some patients receive a drug and others receive a placebo. If this researcher and study are typical, what does Dr. Singh want to find out from the research?

a. Whether the drug works better than the placebo
b. Whether the placebo has any effectiveness at all
c. Whether the placebo works better than the drug
d. Whether the drug and placebo work equally well

ANSWER: a

24. Several college students who are friends have all decided to volunteer for a research study that will compare a medical treatment to a placebo. Ethical codes require that they all sign their informed consent to participate. What does this mean?

a. The students have been informed whether they will get the treatment or a placebo.
b. The students have been informed and allowed to choose the treatment or placebo.
c. The students have been informed they will receive something, but not which it is.
d. The students have been informed they will get a placebo and agree to participate.

ANSWER: c

25. Most health-related evidence

a. is the result of a variety of research methods.
b. has been discovered accidentally.
c. is withheld from the general public to avoid widespread panic.
d. comes from the results of experimental designs.

ANSWER: a

26. Dr. Rich is conducting research that examines whether 20-year olds eat more low-fat foods than 70-year olds. This research is using a _____ design.

a. cross-sectional
b. experimental
c. ex post facto
d. retrospective

ANSWER: a

27. A researcher discovers a high positive correlation between intelligence and good health. What does this mean?

a. One variable is the cause; the other variable is the effect.
b. Both of these variables reciprocally influence each other.
c. Both of these variables occur together and at similar rates.
d. One variable will increase as the other variable decreases.

ANSWER: c

28. A research team conducts a study, and their statistical analysis yields a correlation coefficient of 0.07 between two variables. What is true about this?

a. This number is so small that it is not statistically significant.

b. This number is so small that the correlation must be random.
c. This number can predict one variable's score from the other's.
d. This number can be statistically significant in large populations.

ANSWER: d

29. Dr. Sweedey is conducting research that examines 5 year olds and their aggressive behaviors. She follows up with these same participants 10 years later to measure their reactivity to stress. She is using a _____ design.

a. cross-sectional
b. experimental
c. longitudinal
d. ex post facto

ANSWER: c

30. There is a _____ correlation between physical age and physical health, such that as age increases, physical health decreases.

a. positive
b. negative
c. weak
d. nonexistent

ANSWER: b

31. A correlation of .80 would indicate a _____ and _____ relationship between two variables.

a. strong; positive
b. strong; negative
c. weak; positive
d. weak; negative

ANSWER: a

32. A positive correlation between physical health and education would indicate that as education _____, physical health _____.

a. decreases, decreases
b. decreases, increases
c. increases, decreases
d. increases, increases

ANSWER: d

33. The major difference between longitudinal studies and cross-sectional studies is that cross-sectional studies occur _____ whereas longitudinal studies occur _____.

a. once; over time
b. over time; once
c. with the same participants; with different participants
d. with the same participants; over time

Chapter 02: Conducting Health Research

ANSWER: a

34. One of the advantages of conducting a longitudinal study is that longitudinal studies can _____.
   a. be completed quickly.
   b. help identify developmental trends and patterns.
   c. determine causality.
   d. be completed with relatively few researchers.

ANSWER: b

35. A recent research study examined whether sending text messages to overweight children would help enable them to maintain a weight-loss program. In this experiment, some children were randomly assigned to receive text messages and other children were assigned to the control condition and did not receive text messages. The dependent variable in this experiment was
   a. continued enrollment in a weight-loss program.
   b. text messages.
   c. weight loss.
   d. not receiving text messages.

ANSWER: a

36. Researchers want to examine whether writing about the experience of breast cancer increases feelings of hope and optimism. Breast-cancer patients were randomly assigned to one of two essay conditions: writing about their breast cancer or writing about
   a. hope and optimism.
   b. breast cancer diagnosis.
   c. writing about everyday tasks.
   d. the essay conditions.

ANSWER: d

37. One of the challenges of conducting health research is that it is impossible, and unethical, to manipulate certain variables, such as sexual behaviors or smoking. The research design that examines differences between groups without manipulating these groups is
   a. experimental
   b. ex post facto
   c. random assignment
   d. longitudinal

ANSWER: b

38. If two variables increase or decrease together, they are
   a. positively correlated.
   b. negatively correlated.
   c. positively skewed.
   d. negatively skewed.

ANSWER: a

Chapter 02: Conducting Health Research

39. Correlational studies
   a. cannot indicate cause and effect.
   b. are a type of experimental design.
   c. cannot be used in psychological research.
   d. cannot be used in epidemiological research.

ANSWER: a

40. Correlational studies are a type of
   a. experimental study.
   b. double-blind study.
   c. ex post facto design.
   d. descriptive research.

ANSWER: d

41. Small correlations, for example 0.08 or 0.10,
   a. may be statistically significant.
   b. cannot be statistically significant.
   c. show causation in correlated variables.
   d. both a and c

ANSWER: a

42. Cross-sectional studies
   a. follow disease-free participants over a long period of time.
   b. follow participants with a disease over a long period of time.
   c. are also frequently referred to as longitudinal studies.
   d. compare different age groups or developmental periods.

ANSWER: d

43. A study that compares cholesterol levels of 10-year-old children and 30-year-old adults would most likely be a(n) _____ study.
   a. experimental
   b. cross-sectional
   c. longitudinal
   d. ex post facto

ANSWER: b

44. A study that follows the history of overweight male participants over a 30-year period would be
   a. an experimental study.
   b. a longitudinal study.
   c. a cross-sectional study.
   d. a case-control study.

ANSWER: b

Chapter 02: Conducting Health Research

45. Which of these is NOT a characteristic of longitudinal studies?
   a. Longitudinal studies are a comparison of two separate groups.
   b. Longitudinal studies tend to be time consuming.
   c. Longitudinal studies frequently require a team of researchers.
   d. Longitudinal studies are prospective designs.

ANSWER: a

46. An investigator measures blood pressure in a group of college students and then repeats these measurements every year for 20 years. This is an example of
   a. a longitudinal study.
   b. a cross-sectional study.
   c. an experimental study.
   d. a clinical trial.

ANSWER: a

47. Although causality is difficult to determine, which scientific method most strongly yields evidence for cause and effect relationships?
   a. Correlational study
   b. Experimental design
   c. Ex post facto design
   d. Descriptive research

ANSWER: b

48. The cause of a disease or condition is most readily suggested by
   a. case control studies.
   b. experimental designs.
   c. correlational studies.
   d. a single-participant design.

ANSWER: b

49. In an experimental design that investigates the effects of a low carbohydrate diet on weight loss, diet would be
   a. the independent variable.
   b. the dependent variable.
   c. an extraneous variable.
   d. a placebo.

ANSWER: a

50. In an experimental design that investigates the effects of weight loss on heart rate in middle-aged men, the dependent variable would be
   a. stress.
   b. heart rate.
   c. age.

d. gender.

ANSWER: b

51. Which of the following is part of an ex post facto study but not an experimental study?
a. Manipulation of an independent variable
b. Control of extraneous variables
c. Measurement of a dependent variable
d. Inclusion of a subject variable

ANSWER: d

52. A study comparing smokers' and nonsmokers' scores on a personality inventory is most likely to be
a. an ex post facto design.
b. an experimental design.
c. a correlational study.
d. a retrospective study.

ANSWER: a

53. The branch of medicine that investigates factors contributing to the occurrence of diseases within a population is
a. psychoneuroimmunology.
b. behavioral medicine.
c. behavioral health.
d. epidemiology.

ANSWER: d

54. A risk factor is any characteristic or condition that
a. occurs with a lower frequency in peole with a disease than in people freee from that disease.
b. occurs with a higher frequency in people with a disease than in people free from that disease.
c. is any factor that has been demonstrated to be responsible for causing a disease.
d. is a measure of the dependent variable that is utilized in an experimental design.

ANSWER: b

55. Prospective and retrospective studies are both considered:
a. experimental studies.
b. longitudinal studies.
c. clinical trials.
d. correlational studies.

ANSWER: d

56. A study examined two groups of people—those who were exercising and those who weren't—and examined their past history to try to understand why some people currently exercise whereas others do not. This is an example of what type of correlational design?
a. Retrospective study
b. Prospective study

c. Clinical trial study
d. All of the above

ANSWER: a

57. Occasionally factors that predict death, or _____, are not the same factors that predict disease, or _____.
a. mortality, morbidity
b. morbidity, incidence
c. morbidity, mortality
d. mortality, incidence

ANSWER: a

58. Prevalence of an illness refers to
a. the proportion of the population that has a disease at a specific time.
b. the number of new disease cases in a year.
c. the percentage of new disease cases in a year.
d. the percentage of total deaths caused by a disease in one year.

ANSWER: a

59. In general, chronic diseases are likely to have
a. higher incidence than prevalence.
b. higher prevalence than incidence.
c. similar incidence and prevalence.
d. no usual pattern between the two.

ANSWER: b

60. Acute diseases typically tend to
a. be greater in prevalence than in incidence.
b. be similar in prevalence and in incidence.
c. be greater in incidence than in prevalence.
d. differ in ratios of incidence to prevalence.

ANSWER: c

61. Observational methods in epidemiology are most closely related to which psychology method?
a. Correlational studies
b. Experimental designs
c. Ex post facto designs
d. Case history method

ANSWER: a

62. Prospective epidemiological studies are also
a. cross-sectional.

b. longitudinal.
c. experimental.
d. clinical trials.

ANSWER: b

63. Dr. Marcy is conducting an observational study that compares a group of people who have a specific disease to a control group of people who do not have that disease. What type of study is this?

a. Prospective
b. Case-control
c. Retrospective
d. Both B and C

ANSWER: d

64. In general, what is true about prospective and retrospective research studies?

a. Retrospective studies obtain stronger evidence.
b. Prospective studies obtain stronger evidence.
c. Both obtain a similar strength of evidence.
d. Both obtain matching but weak evidence.

ANSWER: b

65. A study that begins with a group of participants who already have a disease is most likely to be

a. a retrospective study.
b. a prospective study.
c. a correlational study.
d. an experimental study.

ANSWER: a

66. Which type of study begins with a group of people who already have a disease and then looks into factors that are associated with that disease?

a. Experimental
b. Placebo
c. Prospective
d. Retrospective

ANSWER: d

67. Which type of epidemiological study is most similar to an experimental design in psychology?

a. A case-control epidemiology study
b. A retrospective epidemiology study
c. A prospective epidemiology study
d. A randomized and controlled trial

ANSWER: d

Chapter 02: Conducting Health Research

68. Which of the following situations would most seriously complicate the interpretation of causation in a research design?

a. A study in which participants are unaware they are part of an experiment
b. A study in which participants are aware they are part of an experiment
c. A design in which the participants are allowed to self-select
d. A design in which participants are not allowed to self-select

ANSWER: c

69. Psychologists and epidemiologists would agree that which type of study is the most desirable design, the "gold standard" of scientific research?

a. Case-control study
b. Randomized placebo-controlled double-blind trial
c. Natural experiment
d. Correlational study

ANSWER: b

70. Natural experiments in epidemiology are most similar to what kind of psychology study?

a. Experimental
b. Ex post facto
c. Correlational
d. Observational

ANSWER: b

71. In randomized controlled trials, researchers assign participants to treatment or control groups randomly. What is the best definition of “random” as it applies to this?

a. Group assignment is haphazard and not systematic.
b. Participants are unaware of their group assignment.
c. Researchers are unaware of the group assignments
d. Everyone has an equal chance in group assignment.

ANSWER: d

72. The CONSORT (Consolidated Standards of Reporting Trials) guidelines are designed to keep researchers from:

a. falsifying trial results to support a given treatment.
b. suppressing trial results not supporting a treatment.
c. publicizing trial results that support their treatment.
d. publicizing trial results which discredit a treatment.

ANSWER: b

73. A statistical technique for combining the results of several studies is

a. meta-analysis.
b. transactional analysis.
c. hypothesis testing.

d. scientific myopia.

ANSWER: a

74. The results of a meta-analysis allow researchers to determine one type of information that other statistical analyses do not, which is

a. the statistical significance of the effect.
b. the correlation between the variables.
c. the estimated overall size of the effect.
d. the main effects and interactions of variables.

ANSWER: c

75. The Alameda County study is an example of

a. an experimental longitudinal design.
b. a prospective design.
c. an experimental descriptive design.
d. a correlational cross-sectional design.

ANSWER: b

76. Based on the follow-up findings of the Alameda County study, which of the following people would be most likely to die sooner?

a. Ed, who smokes cigarettes and drinks alcohol to excess
b. Flora, who is obese and sleeps thirteen hours every day
c. Gil, who skips breakfast, eats snacks, and has insomnia
d. Hana, who lives alone, rarely goes out, has three friends

ANSWER: d

77. Mortality is to death as morbidity is to

a. mortality.
b. disease.
c. trauma.
d. gruesome.

ANSWER: b

78. Research has found that obesity is related to high blood pressure. This finding means that

a. obesity is a risk factor for high blood pressure.
b. obesity is an independent risk factor for high blood pressure.
c. most overweight people die of high blood pressure.
d. thin people are protected against high blood pressure.

ANSWER: a

79. A research study found a direct, consistent association between late bedtime and childhood obesity. This is known as a _____ relationship.

a. negative

b. dose-response
c. positive
d. causal

ANSWER: b

80. The ratio of the incidence or prevalence of a disease in an exposed group to the incidence or prevalence of that disease in the unexposed group is called
a. a risk factor.
b. dose-response relationship.
c. a relative risk.
d. causation.

ANSWER: c

81. The determination of causation is most easily accepted on the basis of
a. clinical trials.
b. studies using the risk factor approach.
c. community trials.
d. experimental studies.

ANSWER: d

82. Wendi is a long-time smoker, which carries a relative risk of about 23.0 for lung cancer death and 2.0 for heart disease mortality. From this information you can conclude that
a. Wendi is more than four times as likely to die from lung cancer as from heart disease.
b. Wendi's absolute risk for lung cancer is greater than her absolute risk for heart disease.
c. Wendi is about 23 times more likely to die of lung cancer than those who do not smoke.
d. Wendi is about 23 times more likely to die of heart disease than her twin sister.

ANSWER: c

83. Research has found that lung cancer increases with number of cigarettes smoked. This finding
a. indicates a negative relationship between smoking and lung cancer.
b. indicates a positive relationship between smoking and lung cancer.
c. indicates specific proof that smoking cigarettes causes lung cancer.
d. indicates smoking is more likely with personalities prone to cancer.

ANSWER: b

84. A direct, consistent relationship between the independent variable and the dependent variable
a. is an example of the placebo effect.
b. is an example of the nocebo effect.
c. defines dose-response relationship.
d. indicates a transverse relationship.

ANSWER: c

Chapter 02: Conducting Health Research

85. In order for epidemiologists to infer that Behavior A causes Disease B, they must observe
   a. that Behavior A has taken place before Disease B takes place.
   b. a dose-response relationship between Behavior A and Disease B.
   c. a decline in Disease B when Behavior A is eliminated.
   d. all of these relationships between variables exist.

ANSWER: d

86. After tobacco companies argued that cigarette smoking had never been proven to cause lung cancer or heart disease in humans, how did epidemiological researchers establish such a causal relationship?
   a. They proved it through experimental studies.
   b. They inferred it as all seven criteria were met.
   c. They inferred it via overwhelming evidence.
   d. They established it by doing both (b) and (c).

ANSWER: d

87. Theories should be viewed as
   a. unimportant to science.
   b. practical science tools.
   c. testable hypotheses.
   d. untested hypotheses.

ANSWER: b

88. We are designing a new instrument to measure happiness. If we ask participants to complete the same instrument of happiness over several days, we are testing this new instrument's _____.
   a. external validity
   b. interrater reliability
   c. predictive validity
   d. test-retest reliability

ANSWER: d

89. For a scale that is measuring eating disorder likelihood to have good _____, it needs to be able to differentiate between those who will get eating disorders versus those who will not.
   a. external validity
   b. interrater reliability
   c. predictive validity
   d. test-retest reliability

ANSWER: c

90. Which of these is NOT a function of a useful theory?
   a. Generating research
   b. Being a guide to action
   c. Eliminating researcher bias

d. Organizing research observations

ANSWER: c

91. Reliability means
a. accuracy.
b. structure.
c. validity.
d. consistency.

ANSWER: d

92. When scores on two administrations of the same test are in close agreement, then that test is
a. reliable.
b. valid.
c. both reliable and valid.
d. neither reliable nor valid.

ANSWER: a

93. Test X is designed to predict which individuals in a smoking cessation program will successfully quit smoking. Scores from Test X administered at the beginning of a cessation program correlate .89 with length of time smokers are able to quit. This evidence suggests that Test X is
a. reliable.
b. valid.
c. standardized.
d. consistent.

ANSWER: b

94. The extent to which a test measures what it is designed to measure is an expression of
a. test-retest reliability.
b. internal consistency.
c. homogeneity.
d. validity.

ANSWER: d

95. If a test foretells some future condition, it is said to have
a. a negative validity.
b. criterion validity.
c. predictive validity.
d. a lack of validity.

ANSWER: c

96. An accurate psychometric testing instrument
a. must be both valid and reliable.

b. may be valid but not reliable.
c. may be reliable but not valid.
d. must be given with time limits.

ANSWER: a

97. The placebo has treatment benefits but presents problems to researchers.
a. True
b. False

ANSWER: True

98. The placebo can affect psychological disorders, but it has no effect on biological processes.
a. True
b. False

ANSWER: False

99. When the placebo treatment is described in a hidden manner, placebos can lead to fewer symptoms and better quality of life when compared to no treatment.
a. True
b. False

ANSWER: False

100. Correlational studies yield information about causation.
a. True
b. False

ANSWER: False

101. The number of new cases of AIDS per year reveals the incidence of that disease.
a. True
b. False

ANSWER: True

102. A prospective study begins with a group of participants who have a given condition or disease.
a. True
b. False

ANSWER: False

103. With an ex post facto study, researchers compare two or more groups.
a. True
b. False

ANSWER: True

104. The randomized, clinical trial is a type of retrospective study.
a. True
b. False

Chapter 02: Conducting Health Research

ANSWER: False

105. The number of new cases of a particular disease during a specific period of time is incidence.
a. True
b. False
ANSWER: True

106. An experiment consists of at least two groups: an experimental group and a control group.
a. True
b. False
ANSWER: True

107. *Discuss the disadvantages and advantages of placebos.*
ANSWER:
A. A placebo is a treatment that is capable of causing effects through expectation concerning the effectiveness of the treatment, independent of the influence of the treatment itself.
B. The disadvantages of placebos occur in research settings.
1. Placebos create problems in assessing the effectiveness of treatment because people who get treatment expect the treatment to be effective, and the people show improvement even to "sugar pills."
2. Placebos create problems in assessing the effectiveness of psychological treatment because people expect psychological interventions to work, and the people show improvement even if the treatment has no effective component.
C. The advantages of placebos can be seen in treatment situations.
1. Placebos bring about improvements and cures that are indistinguishable from those brought about by medically and psychologically effective treatments.
2. The placebo effect can add to the effect of medical and psychological treatment, boosting the effectiveness.

108. *What are the advantages and disadvantages of experimental studies and correlational studies? What might prompt a researcher to choose a correlational design over an experimental design?*
ANSWER: A. Experimental studies
1. Have the advantage of yielding information about causal relationships, a type of information that no other single method has the power to show.
2. Have the disadvantages of being difficult to conduct and somewhat artificial because experiments require the manipulation of independent variables and the control of all other variables, which includes appropriate control group (or groups).
B. Correlational studies
1. Have the advantage of yielding information about the degree and direction of relationships between variables.
2. Have the disadvantage of being incapable of revealing causal relationships.
C. Researchers can make the choice of correlation over experimental method because
1. Some variables cannot be manipulated as part of an experiment due to ethical or practical problems in performing the manipulation. If a researcher had an interest in such variables, that researcher would have to choose another method of investigation.
2. Some research is designed to reveal strength of relationships between variables, which makes correlational research the best choice.

Chapter 02: Conducting Health Research

109. *Contrast and compare research methods in psychology with those in epidemiology.*

ANSWER:

A. Psychology research
   1. Strives to understand behavior.
   2. Includes correlational studies, cross-sectional and longitudinal studies, experimental studies, and ex post facto designs; all of these methods have different goals and are appropriate for answering different research questions.

B. Epidemiology research
   1. Strives to understand the origins of disease, to determine if the hypotheses about disease drawn from other studies are consistent with the epidemiological data, and to evaluate preventive procedures.
   2. Includes prospective and retrospective studies; randomized, controlled trials; and natural experiments.
   3. Each method has different requirements, and each answers different research questions.

C. Comparing the two areas shows that
   1. Both psychology and epidemiology use methods based on observation as well as manipulation.
   2. Some of the methods are the same but the names may differ.
      a. Experiments are common to both areas.
      b. Ex post facto studies are similar to natural experiments.
      c. Prospective studies are longitudinal.
   3. Some of the methods differ; for example, retrospective studies do not appear in psychology.

110. *Without regard to ethics or practicality, design a study that would settle the question of whether or not smoking causes lung cancer.*

ANSWER:

A. The critical study would have to be an experiment, the only method that allows the determination of causality.
   1. Such an experiment has not been done with humans for ethical reasons.
   2. Such experiments have been done with nonhuman animals, but generalizing those results to humans has not been persuasive to everyone.

B. The experiment
   1. Begins with a representative sample of the population.
   2. Randomly assigns participants to two equal groups, smoking and nonsmoking.
   3. Requires the smoking group to continue and the nonsmoking group to refrain from smoking.
   4. Continues for at least 20 years.
   5. Controls for the events that might occur to the participants during the 20 or more years of the study so as to eliminate these factors as possible causes for lung cancer.
   6. Determines cause of death for all participants who died.
   7. Compares the number of deaths due to lung cancer in the smoking versus nonsmoking group.
   8. Allows for conclusions concerning the causal role of smoking in the development of lung cancer.

C. Because only a controlled experiment like the one described here can form the basis for conclusions about causality, obvious practical and ethical problems exist in attempting to answer

this question.

111. Discuss the strengths and weaknesses of the risk factor approach.

ANSWER: A. A risk factor is a characteristic that relates to the development of illness.

1. Risk factors are determined by correlational studies, and therefore, show no causality.
2. Many risk factors relate to the development of disease, yielding a list of risk factors each with different strengths of relationship to the disease.

B. The advantages of the risk factor approach include

1. Furnishing a list of factors that relate to development of illness.
2. Allowing some predictive power based on strength of the risk factor.
3. Allowing health care professionals to focus on prevention rather than forcing them to strive toward a cure.

C. The main weakness of the risk factor approach is its inability to demonstrate causation.

1. Even if a risk factor causes a disease, the risk factor approach is not capable of revealing such relationships.
2. The predictions of the development of disease based on the risk factor approach do not lead to precise predictions of who will get sick and who will remain disease free.

112. *Contrast the concepts of reliability and validity. How is each important for psychological assessment?*

ANSWER:

A. Reliability is consistency of measurement.

1. Reliability can refer to test-retest or interrater reliability.
2. Reliability is typically expressed as a correlation coefficient, and this correlation expresses the degree of relationship between the two variables (first administration of a test versus second administration; Rater 1 versus Rater 2).
3. High reliability coefficients indicate consistent measurement, but low reliability coefficients are difficult to interpret.

B. Validity is accuracy of measurement.

1. Accuracy of measurement is judged against some independent criterion.
2. Validity may also be expressed as a correlation, reflecting the degree of relationship between the test score and the criterion.

C. Both reliability and validity are necessary for good measurement.

1. A measurement cannot be valid without being reliable, but a measurement can be reliable and still lack validity.
2. These coefficients are important in deciding about the acceptability of scores on psychological tests, and higher reliability and validity scores indicate better tests.

113. Summarize seven criteria that epidemiologists use for determining a cause-and-effect relationship between a condition and a disease.

ANSWER:

Epidemiologists use a series of criteria to determine that a condition causes a disease. When their research findings meet all seven of these criteria, they can infer a causal relationship between an independent variable and a dependent variable. For example, smoking is an independent variable and lung cancer or heart disease is a dependent variable.

A. The criteria are:

1. A dose-response relationship must exist between the condition and the disease.
2. Eliminating the condition must decrease the prevalence or the incidence of the disease.
3. The condition must have occurred before the disease occurred.
4. It must be physiologically plausible that a causal relationship exists between the condition and the disease.
5. Data obtained through research must consistently show a relationship between the condition and the disease.
6. The relationship between the condition and the disease must be relatively strong.
7. Well-designed research studies must be the bases for the relationship between the condition and the disease.
8. Discuss the role of theory in research

114. Discuss the role of theory in research, including defining a theory. How does psychology utilize theories? Identify three characteristics of a useful theory. How do theories further science?

ANSWER: Constructing theoretical models helps psychologists make sense of research results.

1. Health psychologists use theories and models to explain behaviors and conditions relating to health.
2. The uninformed may see theories as unimportant and/or impractical, but scientists see them as tools that are practical by directing their research and making it meaningful.

B. A theory is defined as "a set of related assumptions that allow scientists to use logical deductive reasoning to formulate testable hypotheses" (Feist & Feist, 2006).
   1. Theories interact with scientific observations.
   2. Theories explain and give observations meaning; observations change and/or integrate with theories.
   3. Theories are dynamic. To explain increasingly pertinent observations, they expand and increase in power.

C. In all scientific disciplines including health psychology, the role of theory includes:
   1. Generating hypothesis-testing research and descriptive research.
   2. Organizing, explaining, and making research findings understandable—including integrating existing knowledge and generating questions promoting more research.
   3. Guiding health psychology practitioners to act, i.e. to predict and change behavior. For example, each psychological theory guides corresponding therapeutic methods.

D. Theories represent necessary and useful tools in developing any scientific discipline.
   1. They add to knowledge, make sense of information, and help both researchers and clinicians solve everyday problems.

115. Identify four beliefs that reflect accurate scientific information, and seven other beliefs people may have that reflect uninformed, unrealistic, and/or naïve ideas about research.

ANSWER: A. For people to be informed consumers of health research, they need to check what things they believe about it.

Chapter 02: Conducting Health Research

Four beliefs that reflect accurate scientific knowledge are:

1. The placebo effect can influence not only psychological, but also physical problems.
2. Patients with pain frequently experience relief after taking a placebo.
3. In general, information from longitudinal studies is more useful than information from studies of one individual.
4. The underlying cause of a disease is more likely suggested by experimental research results than by observational research results.

B. Seven other beliefs that reflect uninformed, unrealistic, and/or naïve ideas about research are:

1. A good way to evaluate treatment effectiveness is from personal testimonials.
2. The importance of scientific research is accurately portrayed by TV/news reports.
3. Research methodology is unimportant for evaluating result validity because all scientific methods give equally valuable results.
4. Animal studies can be equally important as human studies for determining important health information.
5. Valuable research is conducted by people outside the scientific community, but scientists attempt to discredit this work.
6. Breakthroughs in science are an everyday occurrence.
7. Because new health research reports frequently contract earlier results, the information cannot be used for good decision-making about personal health.

116. Summarize some guidelines for consumers to evaluate health research information that they find on the Internet.

ANSWER:

A. Whereas people only heard about research from their doctors in the past, today the Internet (as well as TV and newspapers) publicizes it. However, this creates the problem that consumers may be reading untrustworthy, inaccurate information.
    1. News media may focus on the most sensationalistic parts to get people's attention, misleading them.
    2. Commercials may distort or disregard scientific evidence to sell health-related products or services.

B. Since more than 80% of Internet users look there for health information, consumers should ask themselves some questions to evaluate this information:

1. Who is responsible for a website's information? Sites with addresses (URLs) ending in ".org" belong to nonprofits; in ".gov" to government agencies; and in ".edu" to educational institutions, and are more likely to offer unbiased information. Sites with addresses (URLs) ending in ".com" belong to commercial/for-profit companies, and may be primarily motivated by sales.
2. What is a website's purpose? Sites selling things are less likely to give unbiased information. As dramatic "breakthroughs" are rare in science, sites promising these are suspect.
3. What evidence supports a website's claim? It should present findings obtained through published research studies by qualified scientists with government, research hospital, or university affiliations; and should provide references to those studies. Commercial claims

and "satisfied customer" testimonials are typically not research evidence-based.

4. Is enough information available on a website for evaluating a scientific study's research design? Studies with larger samples (participant groups) yield more reliable results. Studies must use randomized, controlled experimental designs to imply causation of specific health outcomes; control for placebo effects; and, in retrospective or prospective designs, control sufficiently for potential confounding variables; and identify participant populations.
5. Is the health information on a website reviewed by an expert with research or medical credentials before it is posted?
6. Is the information on a website current? The site should identify the date of the most recent review or posting. Updated information is important, since scientific knowledge is continually evolving.
7. Recommended websites for current scientific health information include the National Institutes of Health (www.nih.gov) and the Centers for Disease Control and Prevention (www.cdc.gov).