

1. Compare and contrast research methods in health psychology with those used predominantly in epidemiology, paying careful attention to the objectives of each field.
2. Describe the major descriptive research study types utilized in health psychology and discuss their limitations and possible pitfalls.
3. Use figures and specific health psychology related examples to describe the types of correlation (positive, negative, or perfect). In your response, discuss why correlation enables prediction but not causation and why it is important to the fields of health psychology and epidemiology.
4. Explain the nature and advantages of experimentation in health psychology and epidemiological research, with specific examples that demonstrate your understanding.
5. Ignoring for the moment any ethical or practical constraints, how might you design a study that would conclusively settle the question of whether smoking causes cancer?

Answer Key

- 1.
- 2.
- 3.
- 4.
- 5.

1. A questioning approach to all information, including that found in news reports, journal articles, or the arguments of others, best illustrates:
 - A) the hindsight bias.
 - B) overconfidence.
 - C) critical thinking.
 - D) effective psychology.

2. A form of faulty reasoning in which our expectations prevent us from seeing alternative explanations for our observations is called:
 - A) belief bias.
 - B) overconfidence.
 - C) confirmation bias.
 - D) tautological reasoning.

3. In the early twentieth century, many experts incorrectly attributed the disease pellagra to unsanitary sewage removal instead of a dietary deficiency. Their failure to consider alternative explanations for the disease and to leap to an untested conclusion is an example of:
 - A) evidence-based reasoning.
 - B) meta-analysis.
 - C) confirmation bias.
 - D) belief bias.

4. The field of medicine that investigates the causes, spread, and control of disease within the population is:
 - A) psychoneuroimmunology.
 - B) behavioral medicine.
 - C) epidemiology.
 - D) psychosomatic medicine.

5. A health psychologist who wishes to study the health outcomes of shift work decides to interview assembly line workers as they finish their shifts. In this example, the psychologist is conducting a(n) _____ study.
 - A) epidemiological
 - B) experimental
 - C) descriptive
 - D) observational

6. A nonexperimental study in which a researcher observes and records participants' behaviors, often forming hypotheses that are later tested more systematically, is called a(n):
- A) descriptive study.
 - B) field study.
 - C) experiment.
 - D) correlational study.
7. A descriptive study in which one person is studied in depth in the hope of revealing general principles is called a:
- A) case study.
 - B) placebo control.
 - C) longitudinal study.
 - D) natural experiment.
8. After a detailed study of an Iraq War veteran, a health psychologist concludes that the stresses of war can cause long-lasting psychological damage. Which research method did the psychologist use to deduce this?
- A) a survey
 - B) a case study
 - C) a cohort study
 - D) an experiment
9. Which research method does not belong with the others?
- A) case study
 - B) interview
 - C) survey
 - D) experiment
10. In which type of research is a representative sample of people asked to answer questions about their attitudes or behaviors?
- A) case study
 - B) experiment
 - C) meta-analysis
 - D) survey

11. The unstructured descriptive study in which the researcher unobtrusively records participants' behaviors is called a:
- A) case study.
 - B) survey.
 - C) nondescriptive study.
 - D) naturalistic observation.
12. Correlational research is most useful for purposes of:
- A) revealing cause-and-effect relationships.
 - B) explanation.
 - C) prediction.
 - D) hypothesis testing.
13. If health psychologists discovered that tall people have higher blood pressure than shorter people, this would demonstrate that:
- A) blood pressure is inherited.
 - B) blood pressure and height are positively correlated.
 - C) being tall causes blood pressure to rise.
 - D) blood pressure and height are negatively correlated.
14. The discovery by health psychologists that the greater the number of cigarettes that people smoke each day the shorter their life expectancy would demonstrate that:
- A) smoking and life expectancy are negatively correlated.
 - B) smoking and life expectancy are positively correlated.
 - C) smoking causes cancer.
 - D) smoking is the only factor related to life-expectancy.
15. Which correlation between height and blood pressure would enable you to most accurately predict a person's blood pressure from his or her height?
- A) a scatterplot with points that fall exactly on a horizontal line.
 - B) a scatterplot with points that fall loosely around a horizontal line.
 - C) a scatterplot with points that fall exactly on an upwardly sloping line.
 - D) a scatterplot with points that fall loosely around a downwardly sloping line.

16. Professor Armstrong wishes to construct a graph representing the correlation between the height and weight of people in a particular group. She would be best advised to construct a:
- A) bar graph.
 - B) line graph.
 - C) scatterplot.
 - D) meta-analysis.
17. In a study comparing key locations in the westward African migration, researchers found that as BMI increased, so did the prevalence of:
- A) sexually transmitted infections (STIs).
 - B) hypertension.
 - C) AIDS.
 - D) cancer.
18. In a scatterplot depicting a perfect correlation, the data points would fall:
- A) in a downward slope from the upper left part of the graph to the lower right.
 - B) in an upward slope from lower left to upper right.
 - C) along a straight nonhorizontal line.
 - D) along a straight horizontal line.
19. Kendra mistakenly interprets a statement of association between two variables as evidence of causation. Angel, who understands Kendra's error in interpreting the data, is demonstrating higher:
- A) prevalence.
 - B) incidence.
 - C) statistical literacy.
 - D) meta-analysis.
20. A line graph of the relationship between age and the use of health care is best described as a:
- A) curvilinear relationship.
 - B) linear relationship.
 - C) scatterplot.
 - D) positive correlation.

21. In a study of the effects of alcohol consumption on mood, alcohol would be the _____ variable.
- A) experimental
 - B) dependent
 - C) correlational
 - D) independent
22. In an experiment, the factor that may be influenced by the experimental treatment is the _____ variable.
- A) experimental
 - B) dependent
 - C) correlational
 - D) independent
23. The group exposed to a newly synthesized drug being tested in an experiment is the:
- A) control group.
 - B) baseline group.
 - C) experimental group.
 - D) standardized group.
24. To study the potential effects of social isolation on blood pressure, some research participants were instructed to solve problems while working together while others solved problems while working alone. Those who worked alone were assigned to the:
- A) control group.
 - B) baseline group.
 - C) experimental group.
 - D) correlational group.
25. The procedure used to help ensure that the experimental and control groups do not differ in any way that might affect the results of an experiment is called:
- A) variable controlling.
 - B) random assignment.
 - C) representative sampling.
 - D) stratification.

26. Maria believes that high doses of caffeine speed up a person's reaction time. In order to test her hunch, she has five friends each drink three 8-ounce cups of coffee and then measures how quickly they are able to push a button when a tone is sounded. What is wrong with Maria's research strategy?
- A) No independent variable has been specified.
 - B) No dependent variable has been specified.
 - C) There is no control condition.
 - D) There is no provision for repeating the experiment.
27. A research design in which the researcher directly manipulates the independent variable and the assignment to treatment is a(n):
- A) experimental design.
 - B) quasi-experimental design.
 - C) observational design.
 - D) correlational design.
28. A study that compares two groups that differ on the variable under study at the outset of the study is called a(n):
- A) longitudinal study.
 - B) cross-sectional study.
 - C) retrospective study.
 - D) quasi-experiment.
29. When health psychologists study variables that cannot be manipulated, they often conduct a:
- A) randomized clinical trial.
 - B) quasi-experiment.
 - C) community field trial.
 - D) laboratory experiment.
30. Professor House believes that regular exercise boosts academic achievement. To find out if that is true, she compares, over the course of six months, the academic achievement of a group of students who, by their own admission, get little or no exercise, with that of a second group of students who exercise regularly. This is an example of a(n):
- A) double-blind study.
 - B) expectancy study.
 - C) quasi-experiment.
 - D) clinical trial.

31. In a quasi-experiment, the _____ group takes the place of a _____ group.
- A) comparison; control
 - B) control; comparison
 - C) comparison; experimental
 - D) control; experimental
32. A study comparing representative groups of people of various ages on a particular dependent variable is called a:
- A) longitudinal study.
 - B) cross-sectional study.
 - C) epidemiological study.
 - D) field study.
33. The Youth Risk Behavior Surveillance Survey (YRBSS) is an example of a(n) _____ study.
- A) experimental
 - B) cohort
 - C) longitudinal
 - D) cross-sectional
34. Roger is conducting an experiment in which he is comparing the health literacy rates between a group of individuals with genius-level IQs and a group of individuals with average-level IQs. In this example, what is IQ?
- A) the independent variable
 - B) the confounding variable
 - C) the dependent variable
 - D) the subject variable
35. Which situation is an example of longitudinal research?
- A) A researcher compares how many different age groups perform on a memory test.
 - B) A researcher compares how the same group of people, at different ages, perform on a memory test.
 - C) An investigator compares the performance of an experimental group and a control group of participants on a memory test.
 - D) A researcher compares the performance of several different age groups on a test of memory as each group is tested repeatedly over a period of years.

36. The number of deaths of infants under one year old per 1,000 live births in a given year is referred to as the infant _____ rate.
- A) mortality
 - B) morbidity
 - C) incidence
 - D) prevalence
37. Mortality is to death as morbidity is to:
- A) trauma.
 - B) disease.
 - C) mortality.
 - D) pathogens.
38. A characteristic or condition (such as smoking) that occurs with greater frequency in people with a disease (such as lung cancer) than it does in disease-free people is known as a:
- A) pathogen.
 - B) virus.
 - C) risk factor.
 - D) immunogen.
39. John Snow's investigation of the 1848 cholera epidemic in London is an example of which type of research study?
- A) cross-sectional
 - B) randomized clinical trial
 - C) quasi-experiment
 - D) retrospective study
40. Morbidity refers to the:
- A) number of unfavorable health outcomes in a group of people at a given time.
 - B) number of deaths due to a specific cause.
 - C) new cases of a disease in a specific population.
 - D) total number of diagnosed cases of a disease or condition.
41. Mortality refers to the:
- A) number of unfavorable health outcomes in a group of people at a given time.
 - B) number of deaths due to a specific cause.
 - C) number of new cases of a disease in a specific population.
 - D) total number of diagnosed cases of a disease or condition.

42. Incidence refers to the:
- A) number of unfavorable health outcomes in a group of people at a given time.
 - B) number of deaths due to a specific cause.
 - C) number of new cases of a disease in a specific population.
 - D) total number of diagnosed cases of a disease or condition.
43. Prevalence refers to the:
- A) number of unfavorable health outcomes in a group of people at a given time.
 - B) number of deaths due to a specific cause.
 - C) number of new cases of a disease in a specific population.
 - D) total number of diagnosed cases of a disease or condition at a given time.
44. Dr. Sengupta is conducting research on the etiology of bird flu. This means that she wants to understand the:
- A) number of new cases of the disease each year.
 - B) total number of diagnosed cases of the disease.
 - C) origins of the disease.
 - D) relationship between the age of patients and the disease.
45. Which type of study begins with a group of people who are already suffering from a disease and then examines factors associated with that disease?
- A) experimental
 - B) placebo
 - C) prospective
 - D) retrospective
46. Which type of epidemiological study played an important role in initially identifying the risk factors that led to AIDS?
- A) a retrospective study
 - B) a prospective study
 - C) a randomized clinical trial
 - D) a meta-analysis

47. Professor Gomez conducts a meta-analysis of the estimated number of diagnoses of HIV infection in the United States. She finds that certain groups continue to be disproportionately affected by the virus. Which group of individuals is she most likely to find most affected?
- A) female, biracial, female having sex with female, injection drug users
 - B) male, Hispanic/Latino, heterosexual, married men
 - C) male, African American, men having sex with men
 - D) female, Native American, heterosexual, sex workers
48. Longitudinal epidemiological studies that begin with people who are disease-free and are then followed for a period of years are called:
- A) retrospective studies.
 - B) prospective studies.
 - C) correlational studies.
 - D) cross-sectional studies.
49. Which epidemiological method is essentially the same as a longitudinal study?
- A) a retrospective study
 - B) a prospective study
 - C) a randomized clinical trial
 - D) a meta-analysis
50. Which epidemiological method is essentially the same as a true experiment?
- A) a retrospective study
 - B) a prospective study
 - C) a randomized clinical trial
 - D) a meta-analysis
51. In one study, health psychologists compared the reading level of children who attended a school close to a noisy airport with that of children attending a school in a much quieter area. This type of study is an example of a(n):
- A) community field trial.
 - B) retrospective study.
 - C) prospective study.
 - D) randomized clinical trial.

52. A quantitative technique that combines the results of many different studies that examine the same effect or phenomenon is called a:
- A) meta-analysis.
 - B) relative risk study.
 - C) qualitative research study.
 - D) double-blind study.
53. Which of these is NOT a basic condition that must be met before a cause-and-effect relationship between a risk factor and a health outcome can be inferred?
- A) The evidence must be consistent.
 - B) The relationship need not make sense.
 - C) There must be a dose-response relationship.
 - D) The alleged cause must have been in place before the health outcome appeared.
54. A statistical indicator of the likelihood of a causal relationship between a specific risk factor and a health outcome is:
- A) meta-analysis.
 - B) effect size.
 - C) attributable risk.
 - D) relative risk.
55. Epidemiologists have found that sedentary people are twice as likely to develop a particular health condition as people who exercise regularly. This means that:
- A) sedentary people have a relative risk of 2.0 for this health condition.
 - B) sedentary people have a relative risk of 0.50 for this health condition.
 - C) there is a cause-and-effect relationship between lack of exercise and the health condition.
 - D) lack of exercise is the only contributing factor to development of the health condition.
56. The ratio of the prevalence of a health condition in a group exposed to a particular risk factor to the prevalence of that condition in a group not exposed to the risk factor is called:
- A) the prevalence ratio.
 - B) the incidence-prevalence ratio.
 - C) the prevalence-incidence ratio.
 - D) the relative risk ratio.

57. The actual amount of a disease that can be attributed to exposure to a particular risk factor is called the:
- A) prevalence ratio.
 - B) incidence-prevalence ratio.
 - C) attributable risk.
 - D) relative risk.
58. Attributable risk is determined by subtracting the _____ rate of a disease in people who have been exposed to a risk factor from the _____ rate of the disease in people who have not been exposed to the risk factor.
- A) incidence; prevalence
 - B) prevalence; incidence
 - C) prevalence; prevalence
 - D) incidence; incidence
59. Medical residency programs today train new physicians to critically appraise research by using the principles of:
- A) allopathic medicine.
 - B) holistic medicine.
 - C) evidence-based health care.
 - D) homeopathic medicine.

Answer Key

1. C
2. C
3. C
4. C
5. C
6. A
7. A
8. B
9. D
10. D
11. D
12. C
13. B
14. A
15. B
16. C
17. B
18. C
19. C
20. A
21. D
22. B
23. C
24. A
25. B
26. C
27. A
28. D
29. B
30. C
31. A
32. B
33. D
34. D
35. B
36. A
37. B
38. C
39. D
40. A
41. B
42. C
43. D
44. C

- 45. D
- 46. A
- 47. C
- 48. B
- 49. B
- 50. C
- 51. A
- 52. A
- 53. B
- 54. D
- 55. A
- 56. D
- 57. C
- 58. D
- 59. C