

CH: 1-4

Multiple Choice Questions (Enter your answers on the enclosed answer sheet)

1. In general, when selecting factors for a study, you want to be sure of which of these?
  - a. they have been investigated before
  - b. they are available to investigate
  - c. they are not of interest to you
  - d. they do not lead to another question
  
2. Identify and select the correct order of steps in scientific inquiry.
  - a. formulating a hypothesis, collecting relevant information, testing the hypothesis, working with the hypothesis
  - b. reconsidering the theory, asking new questions, identifying the important factors, collecting relevant information
  - c. asking the question, identifying the important factors, asking new questions, testing the hypothesis
  - d. asking new questions, reconsidering the theory, working with the hypothesis, testing the hypothesis
  
3. Nonexperimental research methods consist of which of the following?
  - a. test causal relationships between variables
  - b. only describe characteristics of existing phenomenon
  - c. can be descriptive, historical or correlational
  - d. examine factors that are not related
  
4. Hannah assigns children to different teaching method groups and tests their math performance after six weeks. This is an example of what type of research?
  - a. descriptive
  - b. historical
  - c. experimental
  - d. uncontrolled
  
5. Which of the following methods provides information about past trends?
  - a. historical
  - b. correlational
  - c. experimental
  - d. descriptive

6. Matthew thinks that there is a relationship between parenting style and self-esteem in children. Which research method should he use?
- a. correlational
  - b. quasi-experimental
  - c. descriptive
  - d. historical
7. When variables compete to explain the same effects, what are they sometimes called?
- a. contradictory
  - b. intertwining
  - c. confounding
  - d. interdependent
8. What is another term for the independent variable?
- a. treatment variable
  - b. dependent variable
  - c. control variable
  - d. factorial variable
9. What type of variable masks the true relationship between the independent and dependent variables?
- a. extraneous variable
  - b. moderator variable
  - c. control variable
  - d. neutral variable
10. Why is a null hypothesis said to be implied?
- a. It's always directly tested.
  - b. It's never directly tested.
  - c. You do not need to test it to know that it is false.
  - d. It is stated in a question form.
11. The interpretation of "differences are significant" means that the differences found are \_\_\_\_\_.
- a. probably not due to chance
  - b. due to chance
  - c. creative outcomes
  - d. not dictated by the hypothesis

12. The best dependent variable is defined by which of the following characteristics?
- a. independent of any other variable in the same study
  - b. sensitive to changes in the treatment
  - c. can be manipulated by the researcher
  - d. interacts with the independent variable
13. Which of the following is a good way to find a research topic?
- a. personal experience
  - b. getting an idea from your advisor
  - c. looking for the next step in the research process
  - d. All of the above.
14. Which type of source is NOT typically included in a literature review?
- a. tertiary sources
  - b. general sources
  - c. secondary sources
  - d. primary sources
15. What is one of the advantages of using online search services?
- a. you are not likely to miss very much
  - b. this is an outdated method
  - c. it is stated in a declarative form
  - d. you can enter the data for any one reference using a standard form
16. Forcing someone to participate in a study is an example of what ethical issue/concern?
- a. protection from harm
  - b. maintenance of privacy
  - c. informed consent
  - d. coercion
17. What is the best definition of an institutional review board?
- a. a group of people who make decisions regarding an institution's human resources
  - b. a group of people found in most public institutions and private agencies who render a judgment as to whether experiments carried out in their facilities are free from risk
  - c. a group of people who review the literature produced by researchers in their institution in order to keep an accounting of it
  - d. a group of people representing many different institutions who meet to review the current literature in their respective fields

18. What does the ethical principle of "sharing benefits" mean?
- a. all participants in the same study should receive an equal share of the benefits or subject payments
  - b. all those who belong to the population being studied will share equally from the benefits the study produces
  - c. the results of studies must be shared with the public so society may benefit from the increased knowledge
  - d. all groups involved in a study should eventually be given an opportunity to receive any treatments that were found to be effective in the study
19. Which is NOT a component of informed consent?
- a. the purpose of the research
  - b. who you are
  - c. how the participant can get a copy of the records
  - d. a computer simulation of the data
20. What is the purpose of a table of random numbers?
- a. determine the number of subjects in a study
  - b. decide what statistical test to use
  - c. randomly assign people to groups
  - d. number items on a questionnaire
21. What does generalizability refer to?
- a. results that may be applied to different populations in different settings
  - b. results that apply only to the sample studied
  - c. convenience sampling
  - d. using a table of random numbers
22. A table of random numbers \_\_\_\_\_.
- a. is used in nonprobability sampling methods
  - b. can be used to create a stratified sample
  - c. works well with convenience sampling
  - d. is a list of ordered numbers from which the researcher closes his eyes and randomly points until he obtains the desired number for his sample

23. What is the most unbiased tool that can be used in random selection?

- a. random sampling
- b. table of random numbers
- c. quota sampling
- d. direct sampling

24. When is a stratified sample an appropriate sampling technique?

- a. specific characteristics of the population are of no concern
- b. individuals in a population are not equal
- c. each member must have an equal chance of being selected
- d. you have a small population

25. Which of the following is NOT a probability sampling method?

- a. simple random sampling
- b. quota sampling
- c. stratified sampling
- d. cluster sampling



Writing Assignment for Unit One

- Include your name, student number, course number, course title and unit number on each page of your writing assignment (this is for your protection in case your materials become separated).
- Begin each writing assignment by identifying the question number you are answering followed by the actual question itself (in bold type).
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Please answer ONE of the following:

1. Correlational, descriptive and historical research are classified under one category known as nonexperimental research. Explain how these types of research are the same and how they are different.
2. Discuss the characteristics of a good research hypothesis. What distinguishes a null hypothesis from a research hypothesis? How would you explain the difference between nondirectional research and directional research hypotheses?
3. Discuss the different types of sources (i.e. general, primary, and secondary). What are the differences among these sources? Why is it important that researchers utilize primary sources when conducting a thorough review of the literature?

## The Unit Examination

The unit examination contains 25 multiple choice questions, as well as a writing assignment.

Your grade on the examination will be determined by the percentage of correct answers. The university utilizes the following grading system:

A = 90% – 100% correct	4 grade points
B = 80% – 89% correct	3 grade points
C = 70% – 79% correct	2 grade points
D = 60% – 69% correct	1 grade point
F = 59% and below correct	0 grade points

## Completing Unit Two Examination

Before beginning your examination, we recommend that you thoroughly review the textbook chapters and other materials covered in each unit and follow the suggestions in the mastering the course content section of the syllabus.

This unit examination consists of objective test questions as well as a comprehensive writing assignment selected to reflect the learning objectives identified in each chapter covered so far in your textbook.

Additional detailed information on completing the examination, writing standards and how to submit your completed examination may be found in the syllabus for this course.

Multiple Choice Questions (Enter your answers on the enclosed answer sheet)

1. The ratio level of measurement would include which of the following?
  - a. political affiliation
  - b. amount of books owned
  - c. order of finishing test
  - d. GRE score
2. Which level of measurement conveys the most information?
  - a. nominal
  - b. ordinal
  - c. interval
  - d. ratio
3. Which of the following is NOT an example of reliability?
  - a. consistency
  - b. performing the same in the future as in the past
  - c. the test doing what it is supposed to do
  - d. measuring the same thing more than once with the same outcome
4. A score that you would actually record is a(n) \_\_\_\_\_ score.
  - a. observed
  - b. true
  - c. error
  - d. false
5. What are the two components of error scores?
  - a. method error and consistent error
  - b. standard error and method error
  - c. trait error and standard error
  - d. trait error and method error



6. A measure of how stable a test is over time is an example of which of the following?
- inter-rater reliability
  - test-retest reliability
  - parallel forms reliability
  - internal consistency
7. \_\_\_\_\_ describes a measure used to compare two different tests with the same group of participants to see how closely correlated the two sets of scores are with each other.
- Inter-rater reliability
  - Test-retest reliability
  - Parallel-forms reliability
  - Internal consistency
8. What is the name of the individual credited with devising levels of measurement in which different measurement outcomes can be classified?
- Binet
  - Stevens
  - Cattell
  - Wechsler
9. What is one way to obtain a criterion validity estimate?
- ask an expert for his or her opinion
  - assess the underlying construct on which the test is based and correlate these scores with the test scores
  - select a criterion and correlate scores on the test with scores on the criterion
  - obtain a Pearson Product Moment correlation coefficient for two different forms of the test given at different times
10. Intelligence tests usually compare the performance of a child against other children of the same age. This type of test is called a(n) \_\_\_\_\_ test.
- achievement
  - standardized
  - norm-referenced
  - criterion-referenced
11. Tests such as the Denver Developmental Screening Test are used \_\_\_\_\_.
- as dependent variables
  - for entrance to a program to identify strengths and weaknesses
  - to distinguish among people for selection purposes
  - to determine if program goals were met

12. What type of test defines a specific level of performance (or mastery) of some content domain?
- a. standardized test
  - b. researcher-made test
  - c. norm-referenced test
  - d. criterion-referenced test
13. The Graduate Record Examination and the Miller's Analogy Test are generally used for \_\_\_\_\_.
- a. placement
  - b. selection
  - c. evaluation of a program
  - d. diagnosis
14. What is the computed number for the proportion of test takers who get an item correct?
- a. item analysis
  - b. discrimination index
  - c. difficulty index
  - d. attitude index
15. What is the computed number for how well an item distinguishes between the "knowing" and the "unknowing"?
- a. item analysis
  - b. discrimination index
  - c. difficulty index
  - d. attitude index
16. Which one of the following is a disadvantage of multiple choice tests?
- a. can be used to assess almost anyone
  - b. limits the kind of content assessed
  - c. are relatively easy to score
  - d. poor writers are not penalized
17. Which level of measurement is very similar to Thurstone-like scales?
- a. ordinal
  - b. nominal
  - c. interval
  - d. ratio

18. What is the range of 5, 8, 10, 14, and 11?
- a. 48
  - b. 9.6
  - c. 10
  - d. 9
19. What is the average amount that each score varies from the mean of the set of scores?
- a. the range
  - b. the standard deviation
  - c. the mean
  - d. the normal curve
20. How can descriptive statistics be defined?
- a. describing elements of a distribution
  - b. relating the data to a larger population
  - c. developing a research question
  - d. identical to inferential statistics
21. Which measure of variability is the most direct way to measure how dispersed a set of scores is?
- a. the mean
  - b. standard deviation
  - c. range
  - d. variance
22. When computing the standard deviation, what does it mean when the sum of the deviation about the mean is NOT 0?
- a. The data set has a great amount of variability.
  - b. The data set has at least one extreme score.
  - c. The data is too small.
  - d. The mean of the data set was computed incorrectly.
23. Which measure of variability describes the average deviation of each score from the mean?
- a. range
  - b. standard deviation
  - c. mode
  - d. mean

24. What measure would be used to compute the average gender of subjects?
- a. mean
  - b. mode
  - c. median
  - d. standard deviation
25. Which measure would be used to describe the average class ranking of algebra students?
- a. mean
  - b. mode
  - c. median
  - d. standard deviation





Multiple Choice Questions (Enter your answers on the enclosed answer sheet)

1. What is the correct order of steps in testing a hypothesis?
  - a. statement of null hypothesis, setting level of risk, selection of test statistic
  - b. statement of null hypothesis, computation of test statistic, selection of test statistic
  - c. selection of test statistic, comparison of obtained value to critical value, computation of test statistic
  - d. selection of test statistic, computation of test statistic, statement of null hypothesis
  
2. What is the statistical test for examining the significant difference between two means from two unrelated groups?
  - a. t-test for dependent means
  - b. MANOVA
  - c. t-test for independent means
  - d. factor analysis
  
3. If the two groups you are comparing are related to each other, what test should you use?
  - a. factor analysis
  - b. MANOVA
  - c. t-test for independent means
  - d. t-test for dependent means
  
4. When examining whether group differences occur on more than one dependent variable, what should be used?
  - a. factor analysis
  - b. MANOVA
  - c. t-test for independent means
  - d. t-test for dependent means
  
5. When examining the significance of the relationship between two variables, what test should you use?
  - a. t-test for dependent means
  - b. t-test for independent means
  - c. t-test for the correlation coefficient
  - d. analysis of variance

6. If Helen mistakenly accepts her null hypothesis when it should be rejected, what has occurred?
- a. Type I error
  - b. Type II error
  - c. researcher bias
  - d. None of the above.
7. How can Type II errors be reduced?
- a. decreasing sample size
  - b. homogeneous population
  - c. increasing sample size
  - d. heterogeneous population
8. The level of significance is similar to which of the following?
- a. a Type I error
  - b. a Type II error
  - c. a bell curve
  - d. the null hypothesis
9. What does the central limit theorem enable researchers to do?
- a. compare means from two independent samples
  - b. generalize the results from a sample to a population without knowing the exact nature of the population's distribution
  - c. compute the significance of a relationship between two variables
  - d. reduce the possibility that chance accounts for variability in the variable of interest
10. What is the second step in developing an interview?
- a. state the purpose of the interview
  - b. select an appropriate sample
  - c. develop questions
  - d. train the interviewers
11. When conducting an interview, what should you be careful NOT to do?
- a. begin the interview cold
  - b. be direct
  - c. dress appropriately
  - d. use a tape recorder

12. Which is the weakest correlation?
- a. + 0.76
  - b. + 0.21
  - c. - 0.01
  - d. - 0.88
13. What would a correlation of .35 be called?
- a. moderate
  - b. weak
  - c. very strong
  - d. very weak
14. If your research does NOT include a treatment or control group, what type of research are you conducting?
- a. experimental research
  - b. causal-comparative research
  - c. descriptive research
  - d. quasi-experimental research
15. Which interview question is open-ended?
- a. Do you smoke?
  - b. Are you married?
  - c. How old are you?
  - d. How do you feel about tests?
16. What is the third step of developing an interview?
- a. selecting a sample
  - b. developing the questions
  - c. training the interviewers
  - d. stating the purpose of the interview
17. Which of the following is NOT an advantage of interviews?
- a. You may obtain additional helpful information from the interviewee's nonverbal behavior or the environment.
  - b. They are relatively inexpensive as they do not require much time.
  - c. You can use rapport to help put the interviewee at ease.
  - d. You can schedule the interviews at times that are convenient to you.

18. What type of research is sometimes called "research without the numbers"?
- a. quantitative
  - b. qualitative
  - c. experimental
  - d. correlational
19. Which would NOT be considered a source of information for qualitative research?
- a. tests
  - b. records
  - c. observation
  - d. interviews
20. The fifth step in conducting historical research is \_\_\_\_\_.
- a. evaluating authenticity and accuracy of evidence
  - b. formulating a hypothesis
  - c. defining a topic or problem
  - d. integrating data
21. What is data that is derived from sources at least once removed from the original event?
- a. secondary sources
  - b. global sources
  - c. primary sources
  - d. informal sources
22. What is the criteria of authenticity also known as?
- a. validity checks
  - b. external criticism
  - c. internal criticism
  - d. accuracy
23. What is another term for accuracy?
- a. authenticity
  - b. secondary
  - c. internal criticism
  - d. validity

24. Which of the following is NOT a characteristic of participant observation?

- a. It is time-consuming.
- b. There is a risk of interfering with the natural process.
- c. It is a primary method used in historical research.
- d. It is a primary method used in ethnography.

25. Which of the following is NOT a qualitative computer research tool?

- a. N6
- b. SPSS
- c. NVivo
- d. HyperSEARCH



Writing Assignment for Unit Three

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Please answer ONE of the following:

1. Explain how the results of a study can be statistically significant but not meaningful. Propose an example of when this might occur.
2. Illustrate what a visual inspection of your data through the use of a scatter plot can help you determine. Summarize the relationship between data points on a scatter plot and a correlation coefficient.
3. Distinguish qualitative research methods from those categorized as quantitative methods. Outline what types of questions qualitative research addresses that cannot be addressed by quantitative research.

Multiple Choice Questions (Enter your answers on the enclosed answer sheet)

1. Which design uses no control group and no random selection?
  - a. true experimental
  - b. quasi-experimental
  - c. pre-experimental
  - d. causal-comparative
  
2. What is an example of a true experimental design?
  - a. pretest posttest control group design
  - b. one-group pretest posttest design
  - c. one-shot case study design
  - d. nonequivalent control group design
  
3. What term is synonymous with internal validity?
  - a. generalizability
  - b. accuracy
  - c. reliability
  - d. control
  
4. Most threats to \_\_\_\_\_ are taken care of by the experiment's design, while most threats to \_\_\_\_\_ need to be taken care of by the designer of the experiment.
  - a. internal validity, external validity
  - b. external validity, internal validity
  - c. randomization, reliability
  - d. reliability, randomization
  
5. Jim was coming down with a cold and decided to take his friend's advice and drink hot lemon juice with a dash of salt to help his throat. Jim's experimentation can be categorized as what type of research?
  - a. one-group pretest posttest design
  - b. quasi-experimental
  - c. one-shot case study
  - d. pretest posttest control group design

6. The experimental design that uses one group, a treatment, and a posttest is called \_\_\_\_\_.
- a. one-shot case study design
  - b. pretest posttest control group design
  - c. Solomon four-group design
  - d. one-group pretest posttest design
7. The experimental design that uses one group and a pretest and posttest is called \_\_\_\_\_.
- a. one-group pretest posttest design
  - b. posttest only control group design
  - c. Solomon four-group design
  - d. one-shot case study
8. Which allows for in-depth examination of specific behaviors?
- a. nonequivalent control group design
  - b. static group comparison
  - c. single-subject design
  - d. one-group pretest posttest design
9. Which of the following notes that the treatment is reintroduced?
- a. ABA
  - b. ABC
  - c. ABAB
  - d. ABAC
10. What is the primary advantage of ABAB design?
- a. addressing ethical concerns
  - b. lower cost
  - c. less time involved
  - d. easier training
11. If it is not possible to randomize or administer a pretest, what is the best choice of design?
- a. Analysis of Covariance (ANCOVA)
  - b. static group design
  - c. nonequivalent control group design
  - d. Solomon four-group design

12. What is one suggested limitation of the single subject design?
- a. significant expense
  - b. internal validity
  - c. external validity
  - d. None of the above.
13. Single-subject designs have roots in which of the following views of development?
- a. Piagetian
  - b. behavioral
  - c. organismic
  - d. social learning
14. Which of the following would NOT be considered a major section of a research proposal?
- a. terminology
  - b. a review of the literature
  - c. the method
  - d. implications and limitations
15. Which part of a research proposal is included at the author's discretion?
- a. introduction
  - b. implications and limitations
  - c. review of literature
  - d. method
16. Which is NOT a common criticism of research articles?
- a. data collection not carefully controlled
  - b. weaknesses in design of research
  - c. hypothesis was not interesting
  - d. limitations of the study were not stated
17. Which of the following would be found in the method section?
- a. introduction
  - b. running head
  - c. rationale for the research
  - d. participants

18. Which of the following would be found in the introduction section?
- a. current status of topic
  - b. problem statement
  - c. timeline
  - d. research design
19. Which of the following would be found in the literature review section?
- a. current status of topic
  - b. problem statement
  - c. timeline
  - d. research design
20. In what order are multiple authors listed on a manuscript?
- a. alphabetically
  - b. order of contribution
  - c. alphabetically by institution
  - d. ranked by number of publications
21. A shortened title which appears at the top of each manuscript page is called a(n) \_\_\_\_\_.
- a. abstract
  - b. running head
  - c. introduction
  - d. reference
22. How many words in length should your abstract be?
- a. 50
  - b. 120
  - c. 300
  - d. There is no limit.
23. All tables and graphs to be used in the manuscript usually appear in which section?
- a. references
  - b. method
  - c. discussion
  - d. results



24. In a manuscript, the hypothesis \_\_\_\_\_.

- a. is not always stated
- b. is stated in the method section
- c. may be found in the introduction
- d. both a and c

25. Manuscripts should be \_\_\_\_\_.

- a. single-spaced
- b. double-spaced
- c. triple-spaced
- d. half-spaced

Writing Assignment for Unit Four

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Please answer ONE of the following:

1. Explain how the presence of a control group accounts for threats to internal validity. Summarize the types of threats to internal validity that can be avoided by utilizing random assignment to control and experimental groups.
2. Consider the tasks that every researcher should address when preparing for data collection and analyses. Illustrate their importance.
3. Outline the basic "rule of thumb" that researchers follow when formatting a manuscript for publication.