

# GRM 697

## THE RESEARCH PROCESS

*Text:* **Exploring Research**

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Final Examination

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

1. Which of the following is true of the scientific method of inquiry?
  - a. complete once the hypothesis has been tested
  - b. will vary depending on the specific research question
  - c. systematic process that is used to answer questions
  - d. different in basic research than in applied research
  
2. In true experimental designs, what does research attempt to isolate and control?
  - a. factors not tested that could be responsible for any effects except the ones being tested
  - b. statistics that are used to interpret the results
  - c. laboratory conditions to maximize the validity of the experiment
  - d. answers of the people in the study
  
3. What is the major difference between applied and basic research?
  - a. basic research takes longer to complete
  - b. applied research is less important
  - c. basic research is more traditional
  - d. basic research has no immediate application
  
4. What is another term for basic research?
  - a. real research
  - b. pure research
  - c. applied research
  - d. baseline research
  
5. How many steps are included in the research process?
  - a. 4
  - b. 6
  - c. 8
  - d. 9

6. What is the most important step in the research process?
- testing the hypothesis
  - data collection
  - formulating the hypothesis
  - asking the question
7. Samantha is interested in studying the relationship between gender differences and verbal ability. This is an example of what type of research?
- descriptive
  - quasi-experimental
  - correlational
  - gender research
8. Ann divides her classes into two groups—a treatment group and a non-treatment group—to test whether her new method of teaching subtraction is better than her old method. This is an example of what type of research?
- historical
  - quasi-experimental
  - correlational
  - experimental research
9. The scientific method is described in the textbook as \_\_\_\_\_.
- restricted to use in correlational research
  - having no immediate application at the time research is completed
  - a standard sequence of steps in formulating and answering a question
  - the study of phenomena within the social and cultural context in which they occur
10. What does a good research question usually pursue?
- a small part of a broad topic
  - a topic unrelated to any other topics
  - the same thing as the null hypothesis
  - a broad topic
11. Which of the following best describes independent variables?
- not manipulated by the experimenter
  - manipulated to assess the effect of the treatment
  - unrelated to the treatment
  - not necessary

12. Sampling allows researchers to overcome the problem of which of the following?
- overcrowded laboratories
  - biased subject response
  - not having access to the whole population
  - not having access to the proper statistical methods
13. If you read that a study's finding was significant at the  $p < .05$  level, you could conclude that there is a less than 5% probability that \_\_\_\_\_.
- the results will translate to real world situations
  - most researchers in that area would consider the finding to have clinical meaning
  - the researchers used unreliable measures
  - the results were due to chance
14. There will be no relationship between children's time in day care and later academic achievement. This is an example of which of the following?
- a research hypothesis
  - a factorial design
  - a correlational hypothesis
  - a null hypothesis
15. A research hypothesis \_\_\_\_\_.
- represents an equality
  - is represented by Roman symbols
  - is tested indirectly
  - is implicit
16. In testing whether riding a bicycle at least 30 minutes each day reduces weight, what would be the independent variable?
- the person's age
  - amount of time bicycling each day
  - the person's weight
  - the person's diet
17. Once information is collected, what is the first step in writing a literature review?
- create a unified theme for the review
  - build bridges between different areas in the review
  - work from an outline
  - read other literature reviews

18. Which is NOT a hint to help you write your literature review?

- a. create a unified theme
- b. use a system to organize your materials
- c. make sure it is testable
- d. work from an outline

19. A well-written hypothesis \_\_\_\_\_.

- a. creates a unified theme
- b. reflects a theory or body of literature upon which it is based
- c. searches through secondary sources
- d. uses participants in the study who have been used in similar studies

20. 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

21. The Tuskegee Syphilis Study is often used as an example of a \_\_\_\_\_.

- a. groundbreaking study using Facebook
- b. study that did not take into account ethical considerations
- c. study guided by the ethical guidelines of the American Medical Association (AMA)
- d. study that breached confidentiality of participants

22. 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

23. Which of the following information should be provided in an informed consent form for any study involving human participants?
- the findings of the study
  - the number of participants the study plans to use
  - the procedures involved in the study
  - the names of other participants
24. Sally selects classrooms of first graders to study the effects of teaching styles on math achievement. This is an example of \_\_\_\_\_.
- stratified random sampling
  - cluster sampling
  - proportional sampling
  - sampling error
25. Susan calls every 10th name in the student phone book to ask them to participate in her study. This is an example of \_\_\_\_\_ sampling.
- simple random
  - stratified
  - convenience
  - quota
26. Sampling error can be defined by which of the following statements?
- increased by increasing sample size
  - larger as the diversity of sample values becomes smaller
  - can be minimized by using simple random sampling
  - becomes equal to zero over many samples
27. Which of the following statements is true with respect to sample size?
- use small samples when mailing questionnaires
  - the greater the number of subgroups of interest to the study, the larger the sample
  - more subjects are always better
  - large samples increase sampling error
28. Which of these statements is true regarding cluster sampling?
- one example of a nonprobability sampling method
  - individuals grouped together based on cluster of profile characteristics
  - minimizes the risk of bias due to a heterogeneous population
  - a great time-saver compared to simple random sampling

29. When might you need a larger sample to represent the population?
- the amount of variability within groups is small
  - the difference between the two groups is small
  - the difference between the two groups is great
  - both a and c
30. David asks the first 10 freshmen he sees on campus a series of questions. This is an example of a \_\_\_\_\_ sampling technique.
- convenience
  - simple random
  - quota
  - proportional stratified
31. Which of the following statements is false?
- Validity refers to the results of a test not the test itself.
  - Validity progresses from low to high degrees rather than all or none.
  - A test can lack validity and still be a reliable measure.
  - A test can lack reliability and still be a valid measure.
32. What levels of measurement define most variables in behavioral and social science research?
- interval and ratio
  - nominal and ordinal
  - nominal and ratio
  - nominal and interval
33. Which one of the following is NOT an important criterion for increasing reliability?
- eliminate unclear test items
  - standardize the environmental conditions in which the test is given
  - moderate the ease and difficulty of the test
  - use subjective scoring procedures
34. Which of the following is an example of method error?
- subject fatigue
  - bias in grading
  - lack of motivation
  - test-taking anxiety

35. Which is the least frequently established form of reliability?
- a. inter-rater
  - b. internal consistency
  - c. test-retest
  - d. parallel
36. What are the two types of criterion validity?
- a. content and construct validity
  - b. content and parallel validity
  - c. predictive and parallel validity
  - d. concurrent and predictive validity
37. Dr. Brown finds that results from different methods used to assess the same trait are highly correlated and results from different methods used to assess different traits are not significantly correlated. These results demonstrate which two types of validity respectively?
- a. predictive and concurrent
  - b. concurrent and predictive
  - c. discriminant and convergent
  - d. convergent and discriminant
38. A test that measures knowledge of a specific topic is considered what type of test?
- a. achievement test
  - b. attitude test
  - c. personality test
  - d. projective test
39. Which assessment technique is used in field work?
- a. Likert scaling
  - b. Thurstone scaling
  - c. observation
  - d. item analysis
40. Which of the following is NOT a component of a multiple choice question?
- a. the stem
  - b. the root
  - c. distracters
  - d. alternatives

41. Name a multiple choice item which provides a plausible but wrong answer.
- attractor
  - alternative
  - detractor
  - distracter
42. Which of the following is an example of poor characteristics of a questionnaire?
- Questions are objective and forthright.
  - They are accompanied by a cover letter.
  - They begin with the more difficult, thought-provoking questions while the reader is still attentive.
  - There is a clear statement of transition when the topic of the questions changes.
43. Which of the following is a reason you need to be cautious when observing behavior?
- Your very presence may affect the behavior being observed.
  - The researcher records everything that happens.
  - Your questionnaire should not be too long and tedious.
  - You may confuse the difficulty index with the discrimination index.
44. A good cover letter for a survey questionnaire has all but one of the following characteristics listed below. Which is NOT a characteristic of a good cover letter?
- The initial questions are relatively simple, nonthreatening and easy-to-answer.
  - It is written on official letterhead.
  - It promises confidentiality.
  - It clearly states the purpose of the questionnaire and the importance of the study.
45. Which measure would be used to describe how far a test score is from the average test score?
- mean
  - mode
  - median
  - standard deviation
46. In a set of scores with a mean of 50 and a standard deviation of 5, what raw score is represented by a z-score of 1.00?
- 30
  - 55
  - 60
  - 20

47. In a set of scores with a mean of 100 and a standard deviation of 15, what raw score is represented by a z-score of 2.00?
- 115
  - 130
  - 100
  - 70
48. In a normal distribution, what percentage of scores fall between the mean and a z-score of +1.00?
- 16%
  - 34%
  - 50%
  - 95%
49. What is another phrase used to describe a bell-shaped curve?
- average curve
  - regular-shaped curve
  - normal curve
  - elliptical curve
50. You are interviewing classmates to find out their political party affiliation. When you pick the measure of central tendency to use in presenting your results, which should you choose?
- range
  - mode
  - median
  - mean
51. When you have ordinal data (such as class rank), which is the best measure of central tendency to use?
- range
  - mode
  - median
  - mean

52. The minimum or maximum value that one would expect the test statistic to yield if the null hypothesis is true is an example of which of the following?
- critical value
  - F value
  - t-test score
  - sampling mean
53. What can you conclude if the obtained value of a test statistic exceeds the critical value?
- The null hypothesis cannot be rejected.
  - You made an error when calculating the test statistic.
  - The null hypothesis can be rejected.
  - Your obtained value is not statistically significant.
54. In order to determine the critical value, which two pieces of information are needed?
- mean and sample size
  - degrees of freedom and level of significance
  - mean and standard deviation
  - degrees of freedom and variance
55. If Professor Columbo is interested in the general trend of research findings regarding infant visual attention and childhood intelligence, what technique would be most amenable to his inquiry?
- Analysis of Variance (ANOVA)
  - Meta-analysis
  - Multiple Analysis of Variance (MANOVA)
  - Factor analysis
56. What is the standard metric used in most meta-analytic studies called?
- standard deviation
  - effect size
  - sampling mean
  - standard error
57. Which of the following statements regarding statistical significance is FALSE?
- The level of statistical significance and Type I error are the same thing.
  - Statistical significance is the degree of risk you are willing to take that you will reject a null when it is actually true.
  - When your results are found to be statistically significant, you can conclude that they will have a meaningful effect in the clinic.
  - The researcher can determine the level of statistical significance.

58. The first step for conducting a meta-analysis is \_\_\_\_\_.
- deciding on an appropriate statistical software package
  - developing a system to code the various dimensions of the study
  - collecting as many studies as possible (or at least a representative group)
  - determining the most appropriate type of descriptive or correlational technique to examine the outcomes of the studies as a whole
59. In a study, the correlation coefficient for W and X is -0.25. The correlation coefficient for X and Y is 0.20. The coefficient of determination for X and Z is 0.16. The coefficient of alienation for Y and Z is 0.90. Which pair of variables has the highest amount of variance accounted for?
- X and Y
  - X and Z
  - Y and Z
  - W and X
60. Which of the following statements is false?
- A correlation of .8 may be interpreted as very strong.
  - The higher the correlation is, the larger the "jump" in explained variance.
  - A scattergram is a visual representation of a correlation between two variables.
  - The absolute value of the correlation coefficient is more important than the + or - sign.
61. Survey research would be most appropriate for which of the following research questions?
- the relationship between manual dexterity and typing speed
  - parents' attitudes toward sex education in schools
  - the effectiveness of a weight management program for adolescents
  - the relationship between eye-hand coordination and number of tennis wins
62. If you square a correlation coefficient and subtract this number from 1.00, what is the result?
- the coefficient of alienation
  - the coefficient of determination
  - the amount of variance NOT explained by the variance in each variable
  - both a and c

63. Which of the following could be a potential problem in conducting survey research?
- information is collected over a short period of time
  - producing accurate results
  - getting a broad picture of what is being studied
  - response rate
64. The coefficient of alienation describes the \_\_\_\_\_.
- neutral information (such as age, gender, number of children) about the survey respondent
  - amount of variance that is accounted for in one variable by the other variable
  - most frequently used measure of relationships between variables
  - portion of unexplained variance between the tested variables
65. "At what age did you start smoking?" is an example of \_\_\_\_\_.
- a conventional question
  - an open-ended question
  - a structured question
  - interviewer bias subtly changing the response
66. The last step in conducting historical research is \_\_\_\_\_.
- interpreting the results
  - formulating a hypothesis
  - defining a topic or problem
  - gathering data
67. In what situation would the researcher be adjacent to the environment, but NOT actively involved in the process being studied?
- a focus group
  - participant observation
  - direct observation
  - an interview
68. Which is NOT a main function of focus groups?
- generating insight into previously misunderstood topics
  - in-depth information gathering on one participant
  - understanding how group members arrive at their conclusions
  - encouraging group interaction

69. Which of the following is NOT characteristic of ethnographic research?
- a. Ethnographers tend to examine the group or phenomenon as a whole rather than the sum of its parts.
  - b. Ethnographers often use participant observation.
  - c. Ethnographers develop a research question prior to initiating their research methods just as empirical researchers do.
  - d. Ethnography is typically very time-consuming.
70. Which of the following is an example of a secondary source?
- a. a photograph
  - b. a newspaper story describing an event
  - c. a contract
  - d. tools
71. External criticism, as applied to historical data, is concerned with the \_\_\_\_\_ of the data.
- a. carbon dating
  - b. accuracy
  - c. authenticity
  - d. ethnography
72. Which of the following is NOT a disadvantage of the case study method?
- a. It only reflects one reality and that one may reflect researcher bias.
  - b. Generalizability of the findings is limited.
  - c. It cannot establish cause-and-effect links.
  - d. It provides a rich account of what is occurring.
73. In an experimental research study, which group does NOT receive treatment?
- a. control group
  - b. experimental group
  - c. research group
  - d. participants groups

74. What is the proper order of the following designs if they are to be listed from the one with the least amount of control over variables to the most?
- pretest posttest control group, Solomon four-group, quasi-experimental, one-group pretest posttest
  - one-group pretest posttest, quasi-experimental, pretest posttest control group, Solomon four-group
  - one-group pretest posttest, pretest posttest control group, Solomon four-group, quasi-experimental
  - quasi-experimental, one-group pretest posttest, pretest posttest control group, Solomon four-group
75. True experimental designs are NOT characterized by \_\_\_\_\_.
- random selection from the population
  - random assignment to different groups
  - control groups
  - descriptive statistics
76. To what does the term internal validity refer?
- the degree to which results of a study can be generalized from one sample to another
  - the process of subject selection
  - the development of a treatment
  - the degree to which the results of a study can be attributed to the manipulation of the independent variable
77. Susan has twelve subjects drop out of her study. Which threat to internal validity must she consider?
- mortality
  - history
  - selection
  - randomization
78. Many researchers devise “sham” treatments for their control groups to undergo, meaning that the control group interacts with researchers in some way that is not thought to impact the dependent variable or the outcome. This is done to weaken the argument that the treatment group improvement may have occurred in part simply due to the attention this group received from the researchers. These researchers are attempting to control for which of the following?
- multiple treatment interference
  - the Hawthorne effect
  - selection
  - experimenter effects

79. Which experimental design involves one experimental group and three control groups?
- Solomon four-group design
  - pretest posttest control group design
  - posttest only control group design
  - quasi-experimental design
80. Why use nonequivalent control group design?
- less cost
  - less time involved
  - easier training
  - because you cannot assign subjects to groups
81. In what design is the cause-and-effect argument strongest?
- experimental design
  - quasi-experimental design
  - pre-experimental design
  - correlational design
82. In quasi-experimental research, when will the cause of differences between groups occur?
- during the experiment
  - after the experiment
  - it has already occurred
  - it will never occur
83. Compared to longitudinal studies, cross-sectional studies \_\_\_\_\_.
- are much less expensive
  - have better comparability of groups
  - have higher mortality rates
  - cost the same
84. If you want to answer a research question regarding whether a particular group of subjects experiences any significant changes in behavior as they age but you do not have the time or money for a traditional longitudinal study, which method would be acceptable?
- cross-sectional
  - historical
  - follow-up
  - None of the above would be acceptable.

85. Which quasi-experimental design is the one most often used?
- pretest posttest control group design
  - multiple baseline design
  - nonequivalent control group design
  - static group comparison design
86. Single subject designs are useful because they \_\_\_\_\_.
- allow for an in-depth examination of specific behaviors
  - are used when the behavior on which the researcher is focusing is not very well defined in operational terms
  - allow for random assignment of participants into groups
  - have no threats to internal validity
87. When reviewing the problem and purpose sections of a research article, which of the following questions would be pertinent?
- Is the review recent?
  - Are the hypotheses clearly stated?
  - Are the results related to the hypotheses?
  - Is the objective of the study clearly stated?
88. Which is NOT a primary area to evaluate when judging a research report?
- the hypothesis
  - the answer
  - the problem and purpose
  - references
89. When selecting a dependent variable, you should consider all of the following EXCEPT:
- the measure has been used before.
  - the validity of the measure has been established.
  - the measure comes with testing forms.
  - norms are available, when applicable.
90. In a research proposal, what should follow the literature review section?
- appendices
  - literature review
  - implications and limitations
  - method

91. In a research proposal, what should follow the implications and limitations section?
- appendices
  - literature review
  - implications and limitations
  - method
92. Which section of the proposal contains information on the instrumentation used?
- introduction
  - method
  - implications and limitations
  - literature review
93. What is the shortened title which appears at the top of each proposal page called?
- an abstract
  - a running head
  - an introduction
  - a reference
94. Which section of a manuscript discusses the reliability of any tests that were used?
- introduction
  - methods
  - results
  - discussion
95. Which section of a manuscript discusses the general types of data analyses that were planned and used in the study?
- introduction
  - abstract
  - results
  - method
96. Which is a subsection found in the method section?
- introduction
  - running head
  - results
  - data analysis

97. What type of information may be contained in the appendices of a manuscript?
- a. original data
  - b. author's notes
  - c. references
  - d. both a and c
98. The hypothesis is most likely to appear at the end of which section of a manuscript?
- a. introduction
  - b. methods
  - c. results
  - d. references
99. What guidelines do most journals in the social and behavioral sciences follow?
- a. Index Medicus
  - b. American Psychological Association
  - c. Society of Psychiatric Journals
  - d. Modern Language Association
100. What material is included in the abstract?
- a. a one-sentence statement of the purpose
  - b. tables showing results
  - c. a list of sources that were consulted during the research
  - d. discussion of the important relationships between past research, the purpose of the current study, the hypothesis and the results of the study

