Exam 2 / Final Test

Undergraduate Research Methods in Psychology

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Name: _____

Course: _____

Section: _____

PSY-300 Exam 2 / Final

1. A news outlet reported on a study of people with dementia. The study found that among patients with dementia, bilingual people had been diagnosed 3–4 years later than those who were monolingual. What are the variables in this bivariate association?
a. Being bilingual or monolingual
b. Being bilingual or not, and age at dementia diagnosis
c. Age at dementia diagnosis

2. My statistical results show particularly wide confidence intervals, what problem is this likely associated with?
a. Low between-group variance
b. High within-group variance
c. Low within-group variance
d. High between-group variance

Use the following prompt for questions 3 through 6:

Johnny is designing a study he hopes will improve his results with therapy clients. He tracks the anxiety scores of only a few of his patients for an extended period of time, with weekly check-ins and re-measurements. After a little bit, he staggers starting each patient with a new cutting edge talk therapy strategy. He notices a strong downward trend in anxiety in each patient after implementing the strategy.

3. Johnny's overarching design is best described as _____
a. Small-n
b. Quasi-experimental
c. True experimental
d. Bivariate correlational

4. The subtype of his research is _____
a. Pre-test/Post-test
b. Longitudinal Multivariate
c. Staggered fluent
d. Multiple baseline

5. One key weakness of Johnny's research will be _____
a. Internal validity
b. Construct validity
c. Statistical power

    d. Inability to visually present results

6. Given the type of research being performed and the weakness, Johnny's study is not valuable in this format and would be better done with a different design.
    a. True
    b. False

7. Quasi-experiments differ in what key way for true experiments?
    a. Quasi use personal characteristics as grouping variables, whereas true do not
    b. Quasi are always non-replicable, whereas true usually are able to reproduce
    c. We can use statistics to summarize results from true, whereas quasi can only present results in narrative
    d. True experiments usually have stronger internal validity, whereas quasi will usually have stronger external validity.

8. The scientific process is meant to capture the *average* experience, and will not always apply equally to each individual person. We say this is because science is _____
    a. Probabilistic
    b. Potential
    c. Empirical
    d. Statistical

9. What does the instructor say to do about outliers, in general?
    a. Remove all of them from the data
    b. Make sure to use parametric statistics
    c. Keep them in the data
    d. Decide each on a case-by-case basis

10. A regression threat applies especially:
    a. When there are two groups in the study: an experimental group and a control group.
    b. When the researcher recruits a sample whose average is extremely low or high at pretest.
    c. In a posttest-only design.
    d. When there is a small sample in the study.

11. Instrumentation threat is when _____
    a. The reliability or validity of a measurement changes over time
    b. The characteristics of a person are so variable that it is impossible to measure accurately
    c. The instrument's readings are constantly skewed in the same direction
    d. When a construct is too abstract to be captured with a simple man-made tool

12. When an interaction is statistically significant we should _____
    a. Pay special attention to the main effects of each variable
    b. Be especially concerned about measurement error
    c. Graph our results

d. Interpret only the one variable that was of most interest

13. What measure do we use to determine main effects and interactions?
a. Marginal means
b. Difference composites
c. Marginal medians
d. Masked averages

14. Which of the following words/phrases is indicative that a factorial design was used?
a. "Controlling for"
b. "Is mostly associated with"
c. "Causes"
d. "Depends on"

15. What has the largest impact in controlling for internal validity threats across all design types?
a. Random sampling
b. Random assignments
c. Comparison groups
d. Personal experience

16. I want to make sure X comes before Y does, in order to establish that X causes Y. This describes _____
a. Temporal precedence
b. Random assignments
c. Covariance
d. Internal Validity

17. Which of the following is a strategy for minimizing selection effects?
a. Matched groups
b. Counterbalancing
c. Post-test only design
d. Self-report measures, rather than observational measures

18. What is it called when a researcher publicly announces their hypothesis before running a study?
a. Pre-planning
b. Pre-print
c. Pre-registration
d. Pre-theorize

19. Which of these is not a reason for a researcher to select a quasi- experimental design?
a. To enhance external validity.
b. To avoid the ethical issues a true experiment would cause.
c. To ensure internal validity.

    d. To take advantage of real-world opportunities to study phenomena and events

20. In the instructor's opinion, for which claim type is external validity most important?
    a. Association
    b. Frequency
    c. Causal
    d. The instructor says we should always maximize external validity, regardless of claim type

21. I use a 4-point scale with terms ranging from "strongly disagree" to "strongly agree". This would be called a(n) _____ question
    a. Semantic Differential
    b. Likert
    c. Likert-type
    d. Open-ended

22. I ask a person to point to a specific color on a page and record whether they pointed to the correct one or not. This is an example of a(n) _____ measure.
    a. Self-report
    b. Introspective
    c. Deductive
    d. Observational

23. What procedural step is most connected with the ethical principle of "Respect for Persons"?
    a. Informed consent
    b. Open materials
    c. Open data
    d. P-hacking

24. Which transparent decision is most likely to discourage HARKing?
    a. Pre-printing
    b. Debriefing
    c. P-hacking
    d. Pre-registration

25. In my work, I am emotionally and financially invested in finding significant results. Which of Merton's Scientific Norms does this run afoul of?
    a. Universalism
    b. Communality
    c. Disinterestedness
    d. Organized skepticism

Use the following prompt for questions 26 through 29

Jamie is planning out an experiment on young adults, observing their behaviors as they

shop at the local mall. Her and her team rigorously tallies the number of visits that each store gets and the number of stores each person visits individually. Each of the researchers observe the same individuals. At the end, she notes one of her co-researchers counted a visit if a person stopped at the door, but did not enter. Jamie, however, did not count this as a visit.

26. Jamie did not get informed consent and therefore cannot ethically perform this research.
   a. True
   b. False

27. What type of reliability must we be most concerned with, based on the above text?
   a. Test-retest reliability
   b. Interrater reliability
   c. Internal reliability
   d. Axiom reliability

28. Jamie's result will only be applicable to a certain type of person - this is related to the _____ of her findings
   a. Generalizability
   b. Statistical validity
   c. Construct validity
   d. Transparency

29. The research described in the prompt is most appropriately described as being _____ research
   a. Causal
   b. Quasi-experimental
   c. Basic
   d. Applied

30. Which of the following indicates non-significant findings?
   a. 95% Confidence intervals from 1 to 5
   b. $p = 0.07$
   c. Minuscule effect size
   d. Limited external validity

31. What is it called when null research results tend to be unpublished and unreported?
   a. The Non-transparency crisis
   b. Non-reproducible results
   c. The file-drawer problem
   d. HARKing

32. "Are you in support of this petition and this law change?" - this question is an example of a(n) _____ question
   a. Double-barreled

  b. Emotionally-worded
  c. Biased

33. I deceived my participants (within reason) during my study, and now, at the end, I speak with them an explain the deception. We call this _____
  a. Disclosing
  b. Deciding
  c. Debriefing
  d. Dummy coding

34. Which of the following is not one of the information sources that we discussed is problematic?
  a. Personal experience
  b. Intuition
  c. Empiricism
  d. Authority

35. Measure is to latent, as Operational is to _____
  a. Construct
  b. Critical value
  c. Constant
  d. Confound

Use the following prompt for questions 36 to 39

Sammy is looking at results from their multiple regression that predicted test score from time spent studying, previous test grade, and whether or not someone is an athlete. They intentionally made sure all people in their sample were non-honors students. In their results, they get a r^2 of 0.40 and the β (beta) coefficients for time spent studying and previous test grade have p-values of 0.03 and 0.02.

36. Which of the following from the prompt is a criterion variable?
  a. Honors status
  b. Previous test grade
  c. Test score
  d. Time spent studying

37. Which of the following causal criteria did Sammy investigate with this particular method?
  a. Temporal precedence
  b. Third variables / Internal Validity
  c. Large effect size

38. This would be described as a(n) _____ design
  a. Multivariate correlational
  b. Bivariate correlational

    c. Simple experimental
    d. Pure observational

39. Which component of statistical validity is missing from the reported results?
    a. Cronbach's α (alpha)
    b. Significance
    c. Confidence intervals
    d. Effect size

40. I intend to make sure that I get at least 20 individuals from each class level (e.g., sophomore, junior, etc.) in my sample. I send out an email to all students and wait until at least 20 of each has responded to my survey. This is an example of _____ sampling.
    a. Stratified
    b. Cluster
    c. Simple random
    d. Quota

41. On a scatterplot, my points fall along a clear straight line, with one variable increasing with the other. I would expect my r coefficient to look something like:
    a. 0.50
    b. 0.01
    c. -0.10
    d. -0.80

42. "I expect at least 50 percent of folks will prefer this new restaurant over the old one" - This is an _____ claim
    a. Causal
    b. Association
    c. Frequency
    d. Invalid

43. Which of these associations will probably be plotted as a bar graph rather than a scatterplot?
    a. The more conscientious people are, the greater the likelihood they'll get regular health checkups.
    b. Level of depression is linked to the amount of exercise people get.
    c. Students at private colleges get higher GPAs than those at public colleges.
    d. Level of chronic stomach pain in kids is linked to later anxiety as adults

44. Age (in years) is what scale of measurement?
    a. Ordinal
    b. Continuous
    c. Binary
    d. Categorical

45. All studies must always be reproducible
   a. True
   b. False

46. I share my numbers for others to re-analyze in an attempt to be more transparent - this is an example of _____
   a. Open-measures
   b. Open-data
   c. Skepticism
   d. Collaboration

47. My test had many people score high 90s or perfect 100s. This would suggest there may be a _____
   a. Floor effect
   b. Ceiling effect
   c. Door effect
   d. Skew effect

48. Which of the following four terms is not synonymous with the others?
   a. Generalizable sample
   b. Externally valid sample
   c. Representative sample
   d. Biased sample

49. When researchers conduct a replication study in which they have the same variables at an abstract level but use different operationalizations of each variable, what type of study is it?
   a. Direct replication
   b. Meta-analysis
   c. Conceptual replication
   d. Replication-plus-extension

50. A participant reacts to an experimenter tapping their pencil when the participants moves a lot. They are oblivious to the hypothesis of the study, but do change their behavior anyway. This is an example of _____
   a. Observer bias
   b. Observer effect
   c. Reactivity
   d. Demand characteristic

Extra Credit (Fill-in-the-blank; 2 pts):

In my parting words to the class in our last lecture, I emphasized one last phrase for you to carry forward:

Research is _____