

**Test Bank**

*to Accompany*

***Statistics and Data Interpretation  
for Social Work***

**James A. Rosenthal**

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## **Guidance on *Test Bank to Accompany Statistics and Data Interpretation for Social Work***

Some key considerations and points as you work with the test bank questions:

- all questions are true/false or multiple choice
- questions are modeled closely after the questions at the end of each chapter
- calculations are kept to a minimum
- the carat (^) symbol at the beginning of question indicates that the question is identical to or only marginally different from an end-of-chapter question
- correct answers are indicated by an asterisk (\*)
- whenever the text provides a formula for a procedure, that formula is included in a pertinent test question. For instance, any question that requires calculation of a mean includes the formula for the mean. Formulas for degrees of freedom are provided. Sometimes the provision of a formula makes a question quite easy to answer. You can easily delete such a formula. My feeling was that it is easier for you to delete a formula than to add one. I note that while formulas are provided, a list of descriptions of the symbols used in those formulas is not. (Symbols in the text are on pages 410-420 and formulas on 421-424; you could, if you wanted to, provide lists of these to students as they take the test.)
- whenever students need to consult a table – for instance, a normal distribution table – an appropriate section of that table has been cut and pasted into the test bank .
- all questions are numbered using MSWord's outline/numbering feature. You can cut and paste the questions that you want to use.
- as you cut and paste questions, be sure that cut and paste the various tables, figures, or information that are often needed to answer the questions.
- prior to finalizing your test, be sure to delete the asterisk and carat symbols.

Please feel free to contact me -- [jimar@ou.edu](mailto:jimar@ou.edu) – with any questions that you may have or about mistakes that you may find.

Thanks

Jim Rosenthal

## Test Questions for Chapter 1

### Section 1.2

1. Social work practice based on the “best scientific evidence available” (Rubin, p. 2010, p. 315) is termed \_\_\_\_\_ - \_\_\_\_\_ practice.
  - a. assessment-based
  - b. relationship-based
  - c. \*evidenced-based
  - d. significance-based
  - e. significance-focused

### Section 1.3

2. \_\_\_\_\_ research methods emphasize depth of understanding and deeper meaning.
  - a. Categorical
  - b. \*Qualitative
  - c. Case-based
  - d. Significant
  - e. Quantitative
3. Some students in a statistics class receive tutoring from a teaching assistant. Others complete a computer-based statistics module. The professor compares grades on the final exam for the two groups and develops a report. (T\*^ or F). This is an example of quantitative rather than qualitative research.

### Section 1.4

4. ^Each individual unit on which measurements are recorded is a \_\_\_\_\_.
  - a. value
  - b. data point
  - c. field
  - d. \*case
  - e. theory
5. ^A variable takes on different \_\_\_\_\_.
  - a. \*values
  - b. counts
  - c. cases
  - d. levels
  - e. intervals
6. The number “12” and  $\pi$  ( $\pi = 3.14159 \dots$ ) are examples of ...
  - a. \*constants
  - b. variables
  - c. cases
  - d. conditions
  - e. categories
7. Consider “Republican, Democratic, Libertarian, Socialist Worker” ... These are examples of ...
  - a. cases in a data set

- b. variables in a data set
  - c. \*values of a variable (that being political party)
  - d. constants
  - e. (different) levels of measurements
8. A term synonymous with qualitative variable is \_\_\_\_\_ variable.
- a. \*categorical
  - b. numeric/quantitative
  - c. independent
  - d. constant
9. (T or F\*) Whether (yes or no) you enjoy old movies is an example of a quantitative rather than of a categorical variable.
10. (T or F\*) As it is most often measured, that is, with a scale, weight is a qualitative rather than a quantitative) variable.
11. Sex (as most commonly measured, female vs. male) is an example of a \_\_\_\_\_ variable.
- a. dependent
  - b. random
  - c. (statistically) significant
  - d. \*dichotomous
  - e. value
12. A \_\_\_\_\_ variable has exactly two categories.
- a. group
  - b. \*dichotomous (binary)
  - c. numeric (quantitative)
  - d. measured
  - e. causal (effect)

#### Section 1.5

13. In a random sample, participants are selected by ...
- a. \*methods of chance
  - b. lists
  - c. researcher judgment
  - d. counting
  - e. biased methods
14. Using her very best judgment, a professor selects several highly motivated students to participate in a study.  
(T or F\*) This is an example of random sampling.
15. ^ Fifty students are selected by “the luck of the draw” to take part in a campus opinion survey.  
(T or F\*) This is an example of random sampling.

#### Section 1.6

16. A statistic is a \_\_\_\_\_ of data.
- a. causal replication
  - b. bivariate relationship
  - c. \*numerical summary

- d. random count
- e. independent count
- 17. A researcher studies clients at a nearby mental health center and summarizes data on these clients in a report.  
(T\* or F) This is an example of descriptive statistics rather than of inferential statistics.
- 18. A random sample of members of organization XYZ is selected. This sample is used to draw conclusions about all members of this organization.  
(T or F\*) This is an example of descriptive statistics rather than of inferential statistics.
- 19. Community residents who attend a community meeting about violence in their community fill out a questionnaire on violence. The meeting's organizers tabulate responses and, based on them, draw inferences about all persons in the community.
  - a. This demonstrates descriptive statistics as no conclusions are drawn beyond the study sample.
  - b. This demonstrates an appropriate/correct use of inferential statistics.
  - c. \*This demonstrates (an attempt at) inferential statistics in that conclusions are drawn beyond the study sample, but inferential statistics should not be applied in this situation.
  - d. This demonstrates both bivariate and multivariate statistics.
  - e. All of the above are true.
- 20. A professor examines the association between number of hours studied for an exam (one variable) and grade on the exam (other variable). In this example ...
  - a. \*hours studied is the independent variable and grade is the dependent
  - b. grade is the independent variable and hours studied is the dependent
  - c. both hours studied and grade are independent variables
  - d. both hours studied and grade are dependent variables
  - e. both hours studied and grade are constants

#### Section 1.7

- 21. ^A researcher examines the relationship between visiting of nursing home residents and the level of happiness of these residents. This is an example of ...
  - a. univariate statistics
  - b. \*bivariate statistics
  - c. multivariate statistics
  - d. frequency
  - e. cases and variables
- 22. A poll reports that 47% of voters support Legislation Y. This is an example of ...
  - a. \*univariate statistics
  - b. bivariate statistics
  - c. multivariate statistics
  - d. frequency
  - e. cases and variables

23. ^In a single equation, a researcher examines the effects of income level growing up, family structure (one parent vs. two parent family), and education level on income earned at age 30. This is an example of ...
  - a. univariate statistics
  - b. bivariate statistics
  - c. \*multivariate statistics
  - d. frequency
  - e. cases and random sampling
24. ^ (T or F\*) Whenever one finds that two variables are associated in a random sample, one knows assuredly that these variables are associated in the population from which the sample was selected.
25. Statistical significance tests examine whether study results are likely to be due
  - a. categorical variables
  - b. either categorical or numerical variables
  - c. confounding variables
  - d. \*the luck of the draw (chance).
  - e. Frederick effect(s)
26. (T or F\*) All relationships between variables are causal relationships.
27. ^The third variables that bring about relationships between other variables are often termed \_\_\_\_\_ variables.
  - a. \*confounding
  - b. assignment
  - c. ordinal
  - d. independent
  - e. treatment

#### Section 1.8

28. ^ \_\_\_\_\_ is the use of methods of chance to assign participants to groups.
  - a. Random treatment
  - b. \*Random assignment
  - c. Random sampling
  - d. Nonprobability sampling
  - e. Nonrandom sampling
29. ^At Agency X, a researcher studies children in foster family homes (one group) and children in group homes (the other group), looking to see which group has better outcomes.
  - a. this study uses random assignment
  - b. this study uses random sampling
  - c. this study uses random assignment and random sampling
  - d. \*this study uses neither random assignment nor random sampling
30. ^A survey of elderly persons is conducted; some respondents have pets (Group 1) and others (Group 2) do not.  
(T or F\*). This study uses random assignment to groups.
31. ^A professor selects randomly from a hat some students to receive tutoring from the computer (Group 1) and (again randomly) some to receive tutoring from a

- teaching assistant (Group 2). Scores on a class exam are compared.  
(T\* or F) This study uses random assignment to groups.
32. (T or F\*) Random assignment and random sampling are synonyms, that is, different terms for the exact same thing.
33. (T or F\*) In studies that use random assignment, the researcher must be very concerned that a confounding variable (or variables) is biasing study results.
34. (T\* or F) Random assignment to groups (versus the absence thereof) increases the researcher's confidence that study results are due to the intervention rather than to a confounding variable.

#### Section 1.9

35. ^When variables are at the nominal level, one may ...
- \*group responses into categories.
  - order categories
  - calculate distances between categories
  - do all of the above
36. ^Rank orderings are at the \_\_\_\_\_ level of measurement.
- interval/ratio
  - categorical
  - nominal
  - \*ordinal
  - qualitative
37. Ordered from low to high, the four levels of measurement are:
- ordinal, interval, ratio, nominal
  - interval, ratio, nominal, ordinal
  - ratio, interval, nominal, ordinal
  - \*nominal, ordinal, interval, ratio
  - none of the above orderings are correct
38. A researcher collects data on the (exact) number of children in households (0,1, 2, 3, etc.). The level of measurement for this variable is ...
- interval
  - discrete
  - normal
  - \*ratio
  - ordinal
39. Eye color (blue, brown, green, etc) is at the \_\_\_\_\_ level of measurement.
- dichotomous
  - interval/ratio
  - interval
  - ordinal
  - \*nominal
40. Height measured by a tape measure is at what level of measurement?
- nominal
  - interval
  - \*ratio
  - ordinal



- e. categorical
41. Students rate their height as short, medium, or tall. The level of measurement is ...
- a. nominal
  - b. \*ordinal
  - c. interval
  - d. ratio
42. (T or F\*) This text recommends treating the numbers that are sometimes assigned to the values of categorical variables as actual numeric quantities rather than as codes.
43. ^As a rule of thumb, one should measure at the \_\_\_\_\_ level of measurement.
- a. lowest substantiated
  - b. \*highest possible
  - c. middle tiered
  - d. inferentially pragmatic
44. (T\* or F) Pragmatically, most researchers view scores on multi-item scales as being at or very nearly at the interval/ratio level of measurement.

## Test Questions for Chapter 2

### Section 2.2

1. The symbol " $f$ " indicates ...
  - a. \*the number of cases with a given value
  - b. the number of cases in the study sample
  - c. (when the variable is categorical), the proportion of cases with a given value
  - d. a case' key characteristic
  - e. subgroups
2. ^The number of cases with a given value is the \_\_\_\_\_.
  - a. subgroup
  - b. relationship
  - c. \*frequency
  - d. sample size
  - e. proportion
3. An alternative symbol for frequency, often used to indicate the number in a group, is \_\_\_\_\_.
  - a.  $n$
  - b.  $m$
  - c. %
  - d.  $cf$
  - e. none of the above

The next series of questions pertain to the following table, Table 1

**Table 1**  
**Scores on Statistics Exam**

Score	Frequency	Percentage	Cumulative frequency	Cumulative percentage
59 or below	3		3	15
60 to 69	5	25		
70 to 79	5		13	65
80 to 89	4	20	17	
90 or above	3		20	100

Note.  $N = 20$ .

4. What is the sample size?
  - a. \*20
  - b. 100
  - c. .20
  - d. None of the above
5. What is the percentage that scored 90 or above?  
Formula:  $\% = (f/n) \times 100$ 
  - a. 10
  - b. \*15
  - c. 20
  - d. 3
  - e. 100
6. What is the cumulative frequency that scored 60 to 69 or below this?
  - a. 3
  - b. 40
  - c. 25
  - d. \*8
  - e. cannot be determined
7. What is the cumulative percentage that scored 80 to 89 or below this?  
Formula:  $\text{cumulative } \% = (\text{cumulative frequency} \div \text{sample size}) \times 100$ 
  - a. 17
  - b. \*85
  - c. 65
  - d. 20
  - e. 100
8. ^As it groups together cases with common values, Table 1 is an example of a \_\_\_\_\_ distribution table.
  - a. common frequency
  - b. \*grouped frequency
  - c. common value
  - d. similar value
  - e. common frequency

End of questions on Table 1

The next two questions refer to this situation: A study sample consists of 50 persons, 30 women and 20 men.

9. What is the frequency of women?
  - a. 20
  - b. \*30
  - c. 50
  - d. 100
  - e. none of the above
10. What is  $N$ ?
  - a. 20

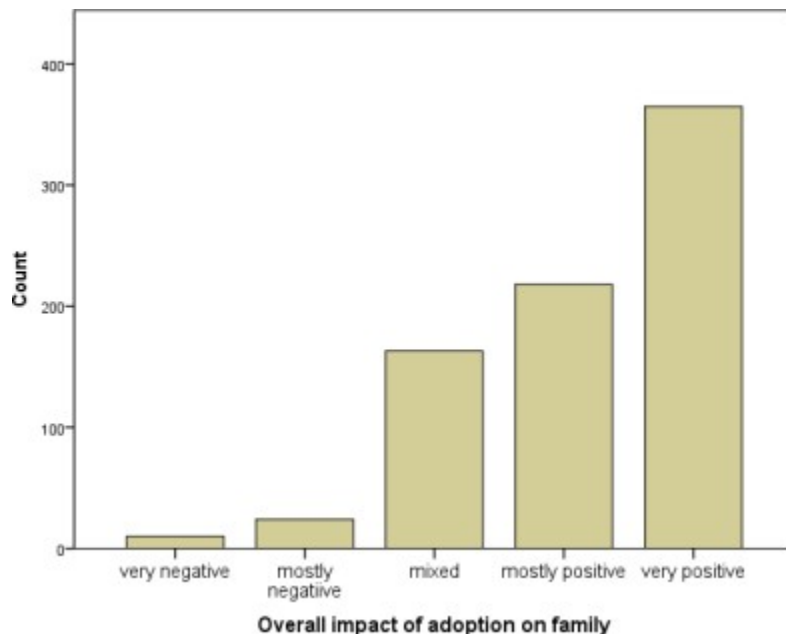
- b. 30
- c. \*50
- d. 100
- e. 60%

End of questions on above situation.

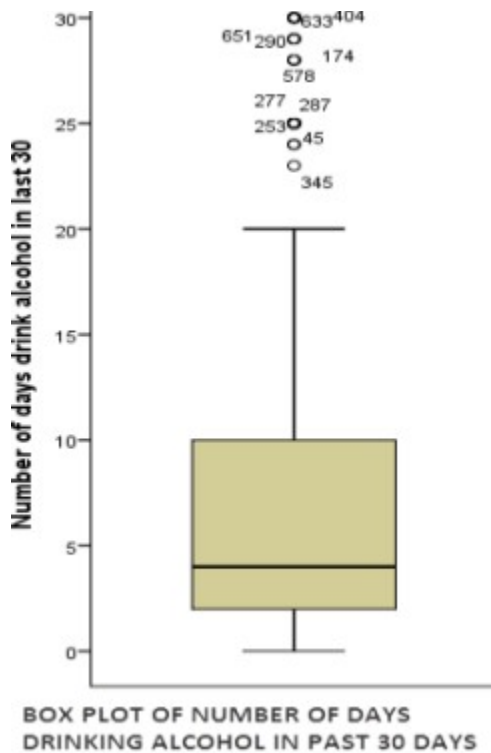
11. A \_\_\_\_\_ is a group of values that have been organized in some way
- a. frequency
  - b. variable
  - c. \*distribution
  - d. case
  - e. category

### Section 2.3

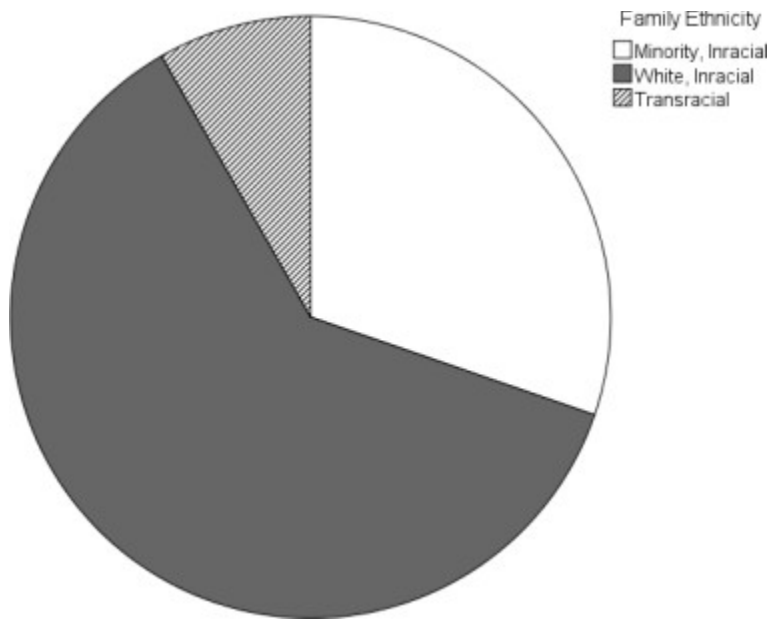
12. ^Among clients at a mental health center, 33 receive individual therapy, 72 receive group therapy, and 22 receive an innovative service entitled computer-assisted therapy. What type of chart should be used to present this data?
- a. frequency polygon
  - b. histogram
  - c. \*bar chart
  - d. trend plot
13. Think about a chart with columns (bars) that displays a *nominal-level* variable.
- a. the order of the bars must be from low high values to high values
  - b. the order of the bars must be from high values to low values
  - c. the order of the must be either a. or b. above
  - d. \*the order of the bars is arbitrary – at the researcher's discretion.



14. Regarding the just –presented figure on adoption impact, what is the approximate frequency (count) of “mostly positive” responses?
- a. 30
  - b. 150
  - c. \*220
  - d. 750
  - e. none of these are even near to the frequency
15. ^ (T\* or F) Frequency polygons and histograms present the same information in different ways.
16. (T or F\*) When a figure presents many different values, say 30 or more, a histogram is preferred over a frequency polygon (line graph).
17. Eric is taller than 63% of persons at the university that he attends. What is Eric’s percentile (percentile rank) in height at this university?
- a. 37
  - b. 50
  - c. \*63
  - d. 100
  - e. none these are even near to the correct percentile
18. In a box plot, the line located inside the box represents ...
- a. the 25<sup>th</sup> percentile
  - b. \*the 50<sup>th</sup> percentile
  - c. the 75<sup>th</sup> percentile
  - d. the 100<sup>th</sup> percentile
19. The lines that extend away from the box in a box plot are termed \_\_\_\_.
- a. fences
  - b. stems
  - c. percentile lines
  - d. \*whiskers
  - e. gradients



20. Focusing on the just-presented box plot, about what percentage of persons drank alcohol on 10 or more days?
- \*about 25%
  - about 50%
  - about 75%
  - 100%
  - none of these percentages is even close to correct
21. (T or F\*) Pie charts are most often used with interval/ratio-level variables.



22. In the just-presented pie chart, the percentage of families in the Minority, Inracial group is about ...
- 15%
  - \*35%
  - 50%
  - 63%
23. In a sample of 100 clients at a family support agency, 25 participate in a “job search skills” focused-program, 45 in a “basic skills training” program, and 20 in a “mentor” program. In a pie chart that presented this data, what percentage of the area of the pie should the slice for basic skills training represent?
- 25%
  - \*45%
  - 20%
  - more than 50% (as it is the largest slice)
  - none of the above