

Social Statistics:

Managing Data, Conducting Analyses, Presenting Results

Third Edition

Exam Questions for Instructor Use

Chapter Two

Multiple Choice

1.) Which one of these columns is not common in a frequency distribution?

- a.) Frequencies
- b.) Percentages
- c.) Cumulative Percentages
- d.) Cumulative Categories

Correct Answer: d: see pages 56-57

2.) Here is a part of a frequency distribution:

# of kids	Frequency	Percentage	Cumulative Percentage
0	3	15%	15%
1	5		40%
2	4	20%	60%
3...			

Which number goes in the blank?

- a.) 17%
- b.) 25%
- c.) 41.67%
- d.) 66.67%

Correct Answer: b: see page 57

3.) In an SPSS-generated frequency distribution, which of these cannot be true regarding the Percent and Valid Percent columns:

- a.) the percentages for each category are the same for both the Percent column and the Valid Percent column
- b.) the percentages in the Percent column are smaller than the percentages in the Valid Percent column
- c.) the percentages in the Valid Percent column are smaller than the percentages in the Percent column
- d.) If the percentage for a category in the Percent column is 0%, the percentage for a category in the Valid Percent column is also 0%.

Correct Answer: c: see page 58

4.) A table that shows the relationship between two variables is typically called:

- a.) a frequency distribution
- b.) a grouped frequency distribution
- c.) a crosstabulation
- d.) a bivariate distribution

Correct Answer: c: see page 60

5.) In a crosstab showing the relationship between sex and gun ownership, the number of women who own guns is 137. Where would you find this number?

- a.) In a column marginal
- b.) In a row marginal
- c.) In a cell
- d.) In the bottom right marginal

Correct Answer: c: see page 61

6.) In a crosstab showing the relationship between sex and gun ownership, the number of people who own guns is 243. Where would you find this number?

- a.) In a column marginal
- b.) In a row marginal
- c.) In a cell
- d.) in the bottom right marginal

Correct Answer: b: see page 61

7.) In a crosstab showing the relationship between sex and gun ownership, the number of people who are women is 201. Where would you find this number?

- a.) In a column marginal
- b.) In a row marginal
- c.) In a cell
- d.) in the bottom right marginal

Correct Answer: a: see page 61

8.) Here is a crosstab with only the cell frequencies:

	MALES	FEMALES
--	-------	---------

Likes math	100	300
Dislikes math	200	_____

If the crosstab showed no relationship between sex and liking of math, what number would go in the blank?

- a.) 0
- b.) 100
- c.) 200
- d.) 600

Correct Answer: d: see page 61

9.) Here is a crosstab with only the cell frequencies:

	MARRIED	UNMARRIED
Happy	400	100
Unhappy	200	_____

If the crosstab showed no relationship between marital status and happiness, what number would go in the blank?

- a.) 0
- b.) 50
- c.) 100
- d.) 200

Correct Answer: b: see page 61

10.) Which of the following is NOT a rule of crosstab building from the textbook?

- a.) the placement rule
- b.) the marginal rule
- c.) the percentage rule
- d.) the title rule

Correct Answer: b: see pages 61-62

11.) If we were looking at the relationship between race and home ownership, what would be the best title for a crosstab looking at this relationship?

- a.) Home Ownership by Race
- b.) Race by Home Ownership
- c.) Home Ownership Crosstabulated with Race
- d.) Race and Home Ownership

Correct Answer: a: see page 62

12.) Using crosstabs, we show that the relationship between age and happiness is stronger among blacks than among whites. We have engaged in the process called:

- a.) delineation
- b.) specification
- c.) elaboration
- d.) interaction

Correct Answer: c: see pages 66

13.) Which of the following is an example of elaboration?

- a.) Men are more likely to give up their seat than women.
- b.) Older people are less likely to give up their seat than younger people.
- c.) Gender and age affect the likelihood of giving up your seat.
- d.) Age's effect on giving up your seat depends on which sex you're examining.

Correct Answer: d: see pages 66

14.) The histogram is a graphic version of what?

- a.) a crosstab
- b.) an elaborated crosstab
- c.) a frequency distribution
- d.) a grouped frequency distribution

Correct Answer: d: see page 75

16.) If one had data for thousands of respondents on a variable with thousands of values, all different from one another, which graph would be most appropriate to represent the distribution of this variable?

- a.) a stacked bar graph
- b.) a clustered bar graph
- c.) a histogram
- d.) a plotted pie graph

Correct Answer: c: see page 75

15.) Which bar graph's presentation of the data most resembles a crosstabulation's presentation of the data?

- a.) a clustered bar graph
- b.) a stacked bar graph
- c.) a tabular bar graph
- d.) a 3-D bar graph

Correct Answer: b: see pages 77-78

17.) The most typical combination of variables in a population pyramid is:

- a.) a ratio-level variable and a dichotomy
- b.) a ratio-level variable and an ordinal-level variable
- c.) two dichotomies
- d.) two ratio-level variables

Correct Answer: a: see page 78

18.) A country is worried that, because of its low birthrate and high number of elderly people, its social security system will be stressed. What is a sign of this?

- a.) the population pyramid will be wider at the bottom (i.e. a regular, right-side-up pyramid).
- b.) the population pyramid will be wider at the top (i.e. an upside-down pyramid).
- c.) the population pyramid will be shaped like an hour glass.
- d.) the population pyramid will be shaped like a rectangle.

Correct Answer: b: see page 78-79

19.) The ideal value of the Lie Factor is:

- a.) 0
- b.) .5
- c.) 1
- d.) 10

Correct Answer: c: see pages 82

20.) The Lie Factor for a graph is .25. Which statement is most correct?

- a.) The graph under-represents the change in the data by .75.
- b.) The graph under-represents the change in the data by a factor of 4.
- c.) The graph over-represents the change in the data by .25.
- d.) The graph over-represents the change in the data by a factor of 4.

Correct Answer: b: see page 82

21.) The Lie Factor for a graph is 4. Which state is most correct?

- a.) The graph under-represents the change in the data by .75.
- b.) The graph under-represents the change in the data by a factor of 4.
- c.) The graph over-represents the change in the data by .25.
- d.) The graph over-represents the change in the data by a factor of 4.

Correct Answer: d: see page 82

- 22.) Saperstein and Penner's article shows that:
- a.) racial classification is affected by social status
 - b.) happiness is affected by employment status
 - c.) happiness and health are related
 - d.) support for marijuana legalization has increased in recent years

Correct Answer: a: see page 87

- 23.) What was the Lie Factor for the graph from Saperstein and Penner's article on racial classification?
- a.) Far below 1: the graph underestimated the change in the data
 - b.) 1: the graph accurately reflected the change in the data
 - c.) 1.4: the graph slightly exaggerated the change in the data
 - d.) 6: the graph greatly exaggerated the change in the data

Correct Answer: d: see page 87

- 24.) In SPSS, when creating a crosstab, you want to put the independent variable in the _____ box.
- a.) rows
 - b.) columns
 - c.) percentage
 - d.) layers

Correct Answer: b: see page 90

- 25.) In SPSS, you create a simple crosstab. Then, you want to elaborate this crosstab. You go back into the crosstabs box and put a variable in the _____ box.
- a.) rows
 - b.) columns
 - c.) percentage
 - d.) layers

Correct Answer: d: see page 90

Short Answer

- 1.) With regard to SPSS frequency distribution output, explain the difference between the "Percent" and the "Valid Percent" columns.

Correct Answer: see page 58

The "Percent" column includes all the cases, including those cases that are coded as missing, such as those respondents who answered "don't know" or "no answer" on a variable. The "Valid Percent" column does not include those missing respondents.

2.) You are creating a crosstab to investigate the relationship between the respondent's sex (in this case, male versus female) and whether or not the respondent voted in the 2016 presidential election. In order to make the worst crosstab as you can, describe how you would break all of the three crosstab rules described in the textbook.

Correct Answer: see pages 61-62

To break the placement rule, you would place the voting variable in the columns and the sex variable in the rows. To break the percentage rule, I would percentage across the rows (or not have percentages at all). To break the title rule, I would title the crosstab something like "Voting and Sex, or Sex by Voting."

3.) Describe what is wrong with the cells in the following crosstab and fix them:

	MEN	WOMEN
OWN GUN	25 33%	50 67%
DOESN'T OWN GUN	25 20%	100 80%

Correct Answer: see page 62

It is percentaged in the wrong direction. When the independent variable is in the columns, you percentage down the columns. Here is the corrected crosstab:

	MEN	WOMEN
OWN GUN	25 50%	50 33%
DOESN'T OWN GUN	25 50%	100 67%

4.) With regard to crosstabs, describe the process of elaboration.

Correct Answer: see pages 66-67

Elaboration is the process of creating a crosstab for different groups, in order to see if the relationship in the crosstab differs for the different groups.

5.) Your independent variable is race. Your dependent variable is support for the death penalty. Your elaboration variable is nativity (immigrant or non-immigrant). Rephrase all this as a hypothesis.

Correct Answer: see pages 66-67

The hypothesis is: race affects support for the death penalty, but this relationship between race and support for death penalty might vary by whether one is an immigrant or not.

6.) Here is an elaborated crosstab without percentages, using GSS2008 data and the variable "favor or oppose the death penalty for murder" as the dependent variable:

	MALES			FEMALES	
	WHITE	BLACK		WHITE	BLACK
FAVOR	527	55	FAVOR	521	63
OPPOSE	160	54	OPPOSE	265	87

Unelaborate this crosstab so that you are looking at the simple relationship between race and attitude toward the death penalty, and add percentages to your resulting crosstab.

Correct Answer: see pages 66-67

	WHITE	BLACK
FAVOR	1048 71.1%	118 45.6%
OPPOSE	425 28.9%	141 54.4%

7.) Describe a variable for which you would want to use a histogram rather than a bar graph in order to represent its distribution.

Correct Answer: see page 75

Answer will vary, but the variable should be one that has many, many categories, such as income in dollars, where all the respondents have different incomes.

9.) Explain why the Lie Factor should ideally be equal to 1.

Correct Answer: see page 82

If the data change by a certain percentage, say, 20%, then the graphic should also change by the same percentage. $20\%/20\% = 1$.

9.) In the mid 1990s, approximately 50 million Americans had cellphones. By the mid 2000s, approximately 250 million Americans had cellphones. In a bar graph, the mid 1990s bar is 1 inch tall, and the mid 2000s bar is 10 inches tall. Find the Lie Factor for this situation, and fully explain what your result means.

Correct Answer: see page 82

The change in the data is: $(250-50)/50=4$: cellphone ownership has grown by 400%. The change in the graphic is: $(10-1)/1= 9$, or 900%. The Lie Factor is: $900\%/400\%=2.25$. This means that the graphic overemphasizes the change in the data by more than a factor of two.

10.) Explain the root cause of the problem with the graph in the Saperstein and Penner article on racial classification.

Correct Answer: see page 87

The root problem was that the Y-axis went from 0.80 to 1.00, making the changes seem much larger than they really were.