Chapter 2: Using the Computer for Statistical Analysis of Data

Test Bank

Multiple Choice

1. The chi square test is used:
a. when you are comparing two groups on the basis of a variable measured at the interval variable
b. when you are comparing two groups on the basis of a variable measured at the nominal level
c. when you are comparing relationships using ratio level data
d. in a study that establishes correlation
Ans: B
Cognitive Domain: Application
Answer Location: Using Excel for Statistical Analysis
Hardy Level: Hard

2. Which one of the folEasying statistical tests is not listed in your textbook by York as the tests that are *most* likely to be used for human services evaluation?
a. independent sample *t Test*s
b. ne sample *t* Tests
c. t Test for paired data
d. logistic regression
Ans: D
Cognitive Domain: Knowledge
Answer Location: Using Excel for Statistical Analysis
Hardy Level: Hard

3. It is not just sufficient to answer a set of questions on the structure of your data but it is:
a. important to compare your data in Excel and SPSS
b. important to look at the data in the context of the nature of your research question.
c. important to look at the data in the context of the nature of your research question, and answer a specific set of questions on the structure of your data before beginning your data analysis
d. important to scan through the data and proceed with the likely statistical test
Ans: C
Cognitive Domain: Knowledge
Answer Location: Using SPSS for Statistical Analysis
Hardy Level: Medium

4. In any given data-set created using SPSS, when it is opened in the SPSS program:
a. the data for each variable are contained in the rows
b. the data for each case are presented in the columns
c. the data for each variable are presented in the columns and the data for each case are contained in the rows
d. you enter the data by giving instructions for each cell
Ans: C
Cognitive Domain: Comprehension
Answer Location: The Structure of Excel and SPSS for Data Analysis
Hardy Level: Medium

5. When you have a measure on each of the six variables for each client in your sample as given in the example in your text, with the first person having a pretest score of 12, a posttest score of 18, an age of 25, and an income of $36,400, the pretest is measured at the:
a. nominal level
b. ordinal level
c. interval level
d. ratio level
Ans: C
Cognitive Domain: Comprehension
Answer Location: The Structure of Excel and SPSS for Data Analysis
Hardy Level: Medium

6. When you have a measure on each of the six variables for each client in your sample as given in the example in your text where gender is coded as 1 for female and 0 for male, gender is measured at the:
a. ratio level
b. ordinal level
c. interval level
d. nominal level
Ans: D
Cognitive Domain: Comprehension
Answer Location: The Structure of Excel and SPSS for Data Analysis
Hardy Level: Medium

7. When a self-esteem scale that gives Easyer scores for better self-esteem, the self-esteem variable is measured at the:
a. nominal level
b. interval level

c. ratio level

d. ordinal level

Ans: B

Cognitive Domain: Comprehension

Answer Location: Using Excel in a User-Friendly Approach to Data Analysis

Hardy Level: Medium

8. When you have a research question that measures whether self-esteem scores are Harder at posttest than at pretest you are engaging in:

a. descriptive research

b. evaluative research

c. explanatory research

d. exploratory research

Ans: B

Cognitive Domain: Comprehension

Answer Location: Using Excel in a User-Friendly Approach to Data Analysis

Hardy Level: Medium

11. The key issue/issues in the analysis of data in the evaluation of human services are:

a. the research design employed

b. the level of measurement of the variables

c. whether our data are matched or independent

d. all of the above

Ans: B

Cognitive Domain: Comprehension

Answer Location: Using the Computer for Statistical Analysis of Data

Hardy Level: Hard

12. When you have a set of scores that have been collected at two points in time for one group of people, it indicates that:

a. we are using a survey research method

b. we are using an experimental design

c. we are using the one-group pretest–posttest design

d. we are using a case study

Ans: C

Cognitive Domain: Comprehension

Answer Location: Using the Computer for Statistical Analysis of Data

Hardy Level: Medium

13. When you use the one-group pretest–posttest research design, it suggests that:

a. you have data for independent groups

b. you have data gathered at the nominal and ordinal level

c. you have paired data for the same group

d. you have data from a one-time survey

Ans: C

Cognitive Domain: Knowledge

Answer Location: For Matched Scores, the Paired *t* Test Will Be Our Statistic

Hardy Level: Medium

14. A score on a scale is normally viewed as being a variable that is measured at the:

a. ordinal level

b. interval level

c. ratio level

d. nominal level

Ans: C

Cognitive Domain: Comprehension

Answer Location: Using Excel in a User-Friendly Approach to Data Analysis

Hardy Level: Easy

15. When we have an expression such as (t = 3.03; p = .01), it means that the finding has:

a. practical significance only

b. statistical significance

c. no statistical significance

d. neither practical nor statistical significance

Ans: B

Cognitive Domain: Comprehension

Answer Location: Reporting Your Findings

Hardy Level: Medium

16. If the p value is .05, it is evident that your data would occur by chance:

a. 50 times in 100

b. .05 times in 100

c. 5 times in 100

d. .005 times in 100

Ans: C

Cognitive Domain: Comprehension

Answer Location: Reporting Your Findings

Hardy Level: Easy

17. One of the folEasying is needed for reporting the findings of evaluative research in human services:

a. data on the clients' gain or loss in the variable that we are trying to change as a result of the service/intervention

b. data that are non-statistically significant

c. professional qualifications of the service provider

d. the setting in which the service is provided

Ans: A

Cognitive Domain: Comprehension

Answer Location: Reporting Your Findings

Hardy Level: Hard

True/False

1. It is possible to examine statistical significance for a single client when you have measured behavior several times before treatment and several times during the treatment period.

Ans: T

Cognitive Domain: Knowledge

Answer Location: Using Excel for Statistical Analysis

Hardy Level: Easy

2. The first step in using SPSS is always to answer a set of questions on the structure of your data.

Ans: F

Cognitive Domain: Knowledge

Answer Location: Using SPSS for Statistical Analysis

Hardy Level: Medium

3. SPSS is structured to present you initially with both a data view tab at the bottom which is the screen for entering variable names and information about the variables; and a data view tab which is the view for naming and characterizing your variables.

Ans: F

Cognitive Domain: Comprehension

Answer Location: Using SPSS for Statistical Analysis

Hardy Level: Medium

4. SPSS is a statistical software package for computing descriptive and inferential statistics for your data.

Ans: T

Cognitive Domain: Comprehension

Answer Location: Using SPSS for Statistical Analysis

Hardy Level: Medium

5. You need to be careful about how your variables are measured in order to properly interpret the data.
Ans: T
Cognitive Domain: Comprehension
Answer Location: Using Excel in a User-Friendly Approach to Data Analysis
Hardy Level: Medium

6. The structure of our data will determine the statistic that we can employ to answer our research question.
Ans: T
Cognitive Domain: Comprehension
Answer Location: Using the Computer for Statistical Analysis of Data
Hardy Level: Hard

7. We know that our scores are numeric values when we have pretest and posttest scores.
Ans: T
Cognitive Domain: Comprehension
Answer Location: Using the Computer for Statistical Analysis of Data
Hardy Level: Medium

8. We know that our scores are not numeric values when we have values such as I and 2 assigned to categories of Republicans and Democrats when the variable, political affiliation is summarized.
Ans: T
Cognitive Domain: Comprehension
Answer Location: Using Excel in a User-Friendly Approach to Data Analysis
Hardy Level: Medium

9. When we have data where a score of 10 is one greater than a score of 9 and a score of 11 is one greater than a score of 10, the variable is measured at the interval level.
Ans: T
Cognitive Domain: Knowledge
Answer Location: Using the Computer for Statistical Analysis of Data
Hardy Level: Medium

10. When you enter data on a nominal variable like gender, you will normally give a number for each identified gender category (e.g., 1 for male, 2 for female, and 3 for transgender) as you enter the data, but these numbers are used just to differentiate the categories, and do not represent any order among categories of a variable.

Ans: T
Cognitive Domain: Knowledge
Answer Location: Using the Computer for Statistical Analysis of Data
Hardy Level: Easy

11. In order for your hypothesis to be supported, we need for the data to go in the non-hypothesized direction and it is not important for the data to be statistically significant.
Ans: F
Cognitive Domain: Comprehension
Answer Location: Using Excel in a User-Friendly Approach to Data Analysis
Hardy Level: Medium

12. When you use a hypothesis, it is not important to report whether there was evidence to retain your research hypothesis.
Ans: F
Cognitive Domain: Comprehension
Answer Location: Reporting Your Findings
Hardy Level: Medium

13. When you report the value of p, you can report it as the actual p value.
Ans: T
Cognitive Domain: Comprehension
Answer Location: Reporting Your Findings
Hardy Level: Medium

14. When you report the value of p, you cannot report it only with reference to a level of practical significance
Ans: F
Cognitive Domain: Comprehension
Answer Location: Reporting Your Findings
Hardy Level: Medium

15. A p value of .01 is better than a p value of .05 when it comes to statistical significance.
Ans: T
Cognitive Domain: Comprehension
Answer Location: Reporting Your Findings
Hardy Level: Easy

Short Answer

1. When you design a one-group pretest–posttest study to evaluate the impact of cognitive behavioral therapy to reduce the level of depression in a group of female clients, you would want to structure your study in such a way that includes which of the key factors as described in your textbook?

Ans: The study plan should include the selection of a scale to measure depression, both pretest and the posttest score for each of the client in the single group of clients that are being provided the intervention. It is important to operationalize the frequency and the method of the number of sessions of the cognitive behavioral therapy and the professionals who are to provide the therapy. Some proficiency in the selection of the necessary data analysis procedures such as the use of *t* Test for paired data is necessary.

Cognitive Domain: Comprehension
Answer Location: The Structure of Excel and SPSS for Data Analysis
Hardy Level: Medium

2. Explain how evaluative research is different from descriptive research designs.

Ans: Evaluative research designs use research questions that measure whether the therapeutic modalities are effective or not. For example, the example given in the book refers to self-esteem as a variable that can be improved with treatment modalities or intervention. If self-esteem scores are Harder at posttest than at pretest and if Harder score means Harder self-esteem, it evidences the effectiveness of the treatment and this is evaluative research. Descriptive research describes a construct such as self-esteem or a social phenomenon such as the growing number of green party members who disrupt the outcome of an election in any given election cycle.

Cognitive Domain: Comprehension
Answer Location: Using Excel in a User-Friendly Approach to Data Analysis
Hardy Level: Medium

3. In any study in the evaluation of human services, there are certain factors that are essential for evaluating any human service. Please describe three of these factors.

Ans: These three factors must include a) clear understanding of the measurement of key variables of the study in any given practice domain of the human service, b) the precise operationalization of the variables and the progress or decline of the variable that the treatment or the intervention is attempting to improve; c) and knowledge on the impact of the human service such as posttest scores in the context of the analysis of the data.

Cognitive Domain: Comprehension
Answer Location: Using Excel in a User-Friendly Approach to Data Analysis
Hardy Level: Hard

4. Please explain the importance of the statement that the structure of our data will determine the statistic that we can employ to answer our research question.

Ans: Because the key issues in the analysis of data in the evaluation of human services depend on the research design employed, such as one-group pretest–posttest or two-group comparison or control group design, the kind of data collected will differ. Additionally, the understanding of the level of measurement of the variables, whether our data are matched or independent, is crucial for data analysis that is likely to help us in answering the research question.

Cognitive Domain: Comprehension

Answer Location: Using the Computer for Statistical Analysis of Data

Hardy Level: Hard

Essay

1. A pre-requirement to conducting data analysis in Excel and SPSS is to understand the level of measurement. Provide an evaluative research example to illustrate that you are knowledgeable about the levels of measurement of variables that are generally used in evaluative research in human services?

Ans: A specific example such as a study on the effectiveness of alternative therapies such as the recovery model-based therapies on problems such as anxiety, phobia, or depression with the identifications of at least four variables with one of the four each to describe each level of measurement. Nominal level measurement must be described with either a mutually exclusive or a categorized variable such as gender, religious affiliation, political party affiliation, or ethnic background of the participants in the recovery model-based alternative therapies. Ordinal level measurement must be described with examples such as birth order of the participants in the therapeutic modality, arranged in an ascending or descending order. Interval level measurement must be described with examples such as scores on the scales for anxiety or depression with at least some understanding of the emphasis on this being necessary to compare means and calculate descriptive central tendencies such as means and variations such as standard deviations. Ratio level measurement must be described with a true zero point, with examples such as the distance travelled by the participants to the treatment center.

Cognitive Domain: Comprehension

Answer Location: The Structure of Excel and SPSS for Data Analysis

Hardy Level: Medium