Lecturer Testbank

Chapter 15

Answers are indicated with a \*

1. Which of the following alternatives is possibly the dependent variable in a study in which regression analysis is used to analyze the data?

a. The political party for which respondents voted at the last election.

b. The gender of the respondent.

c. Favorite color of the respondent.

\*d. The disposable income of the respondent.

2. To determine the F-ratio, the variance between groups (‘between-groups mean square’) is divided by the variance within groups (‘within-groups mean square’).

\*a. T

b. F

3. ANOVA is used to determine whether the variance between groups significantly differ from each other.

a. T

\*b. F

4. ANOVA is used to determine if a non-metric variable influences a metric variable.

\*a. T

b. F

5. Essentially, the relations that are tested through ANOVA could also be tested through regression analysis (by using dummy variables).

\*a. T

b. F

6. Which test could best be used to test the hypothesis that the average grade of students is higher than a 7 on a 10-point scale?

a. Independent samples t-test.

\*b. One sample t-test.

c. Paired samples t-test.

d. ANOVA.

7. Which test could best be used to test the hypothesis that the average price that people are willing to pay for a meal at the University restaurant differs between Dutch, German and Chinese students?

a. Regression analysis.

b. Independent samples t-test.

c. Chi-square test.

\*d. ANOVA.

8. Which test could best be used to test the hypothesis that the quality of tangible elements (measured on ratio-level) influences satisfaction on the University restaurant (measured on ration-level), but that the relationship between these variables differs between students and faculty?

\*a. Multiple regression analysis with an interaction-effect.

b. ANOVA.

c. Three multiple regression models so that mediation can be tested.

d. MANOVA.

9. What is the appropriate method to test if having a mobile phone is related to gender?

a. ANOVA.

b. Regression analysis.

\*c. Chi-square test.

d. T-test.

10. A researcher is interested in whether customer loyalty (measured on a 5-point Likert scale) of people with a bonus card differs from loyalty of people without a bonus card. To test this he can make use of:

\*a. An independent samples t-test.

b. ANOVA.

c. A paired-samples t-test.

d. A Chi-square test.

11. A researcher estimates his model by means of regression. He finds a significance level of .0012 and an R-square of .31 for the model. Which conclusion can the researcher draw from these data?

\*a. At least one of the independent variables or the constant of the model is significantly related to the dependent variable.

b. The model explains 31% of the variation in the independent variables.

c. Multicollinearity is the case.

d. All independent variables are significantly related to Y.

12. Multiple regression analysis measures the effect of an independent variable on the dependent variable, while the other independent variables are held constant.

\*a. T

b. F

13. Multiple regression analysis can only be used when variables are measured by more than one item.

a. T

\*b. F

14. A researcher wants to know if the distribution of income in his sample corresponds to the real distribution in his population (60% < the standard, 40% >= above the standard). Which of the following tests could he use for this?

a. An independent samples t-test.

b. ANOVA

c. A paired-samples t-test.

\*d. A Chi-square test.

15. Which test could best be used to test the hypothesis that the performance of employees depends on the reward they receive, because this reward increases their motivation (all variables are measured on a 5-point Likert scale)?

a. Multiple regression with an interaction effect.

b. Multiple regression with dummy variables.

\*c. Three multiple regression models so that mediation can be tested.

d. Simple regression.

16. Which test could best be used to test the hypothesis that students that for a certain course attended tutorials from lecturer X are happier (measured on interval-level) than students who attended tutorials from lecturer Y and Z?

a. Regression analysis.

b. Independent samples t-test.

c. Chi-square test.

\*d. ANOVA.

17. A Sobel-test is often used when moderation is tested.

a. T

\*b. F

18. Multicollinearity can be verified by a correlation matrix.

a. T

\*b. F

19. Multicollinearity implies that the independent variables are highly correlated with each other.

\*a. T

b. F

20. Multicollinearity is a problem when the VIF values are higher than 10.

\*a. T

b. F

21. VIF = 1 divided by the tolerance.

\* a.T

b. F

22. An ANOVA conducted on 2 groups essentially is the same as conducting a t-test.

\*a. T

b. F

23. When you want to test if the average score of an exam significantly differs from 7.3 (the average score of last year), an independent samples t-test is most appropriate.

a. T

\*b. F

24. A researcher want to test if a cause-effect relationships exists between someone’s age and the number of hours of sleep someone needs. She measures age as follows:

*0 < 20 years.*

*0 20 - 50 years.*

*0 > 50 years.*

Furthermore, participant of the research can fill in the number of hours they sleep on average in a day on a dotted line.

Which test could best be used to test the hypothesis that age influences the number of hours someone sleeps?

a. A independent samples t-test.

b. A paired samples t-test.

\*c. ANOVA.

d. Discriminant analysis.

25. The statistical null hypothesis is rejected when the p-value is small enough.

\*a. T

b. F

26. To be able to conduct a t-test it is important:

a. That the independent- as well as the dependent variable is measured on a nominal or ordinal scale.

b. That the independent variable is measured on an interval- or ratio scale and the dependent variable is measured on a nominal- or ordinal scale.

c. That the independent- as well as the dependent variable is measured on an interval- or ratio scale.

\*d. That the dependent variable is measured on an interval- or ratio scale and the independent variable is measured on a nominal- or ordinal scale.

27. A possible solution to deal with multicollinearity is to collect more data.

\*a. T

b. F

28. Regression analysis is used when the independent variable is nominal or ordinal in nature.

a. T

\*b. F

29. Regression analysis is used when the dependent variable is nominal or ordinal in nature.

a. T

\*b. F

30. The objective of regression analysis is to explain a dependent variable based on 1 or more independent variables.

\*a. T

b. F