

Supplementary Resource Document for Bego et al. (2024) "Single-Paper Meta-Analyses of the Effects of Spaced Retrieval Practice in Nine Introductory STEM Courses: Is the Glass Half Full or Half Empty?"

Assessment Items for Statistics for Psychology, exported from Blackboard

1. There are two types of statistics: descriptive and inferential. Calculating a mean value, calculating standard deviation, finding the mode, and looking at data using a histogram are all examples of _____ statistics. Performing a paired t test, performing a two-sample t test, analyzing data using one-way ANOVA, and conducting a factorial ANOVA are all examples of _____ statistics.

Answers:

- a. descriptive
- b. inferential

2. Indicate whether each of the following is an example of a descriptive or an inferential statistical technique.

[a] 1. Calculate a mean value

[a] 2. Calculate standard deviation

[a] 3. Find the mode

[a] 4.

Look at data using a histogram

[b] 5. Perform a paired t test

[b] 6. Analyze data using one-way ANOVA

[b] 7. Conduct a factorial ANOVA

[b] 8. Perform a two-sample t test

a. Descriptive

b. Inferential

3. Which of these is a descriptive statistical technique?

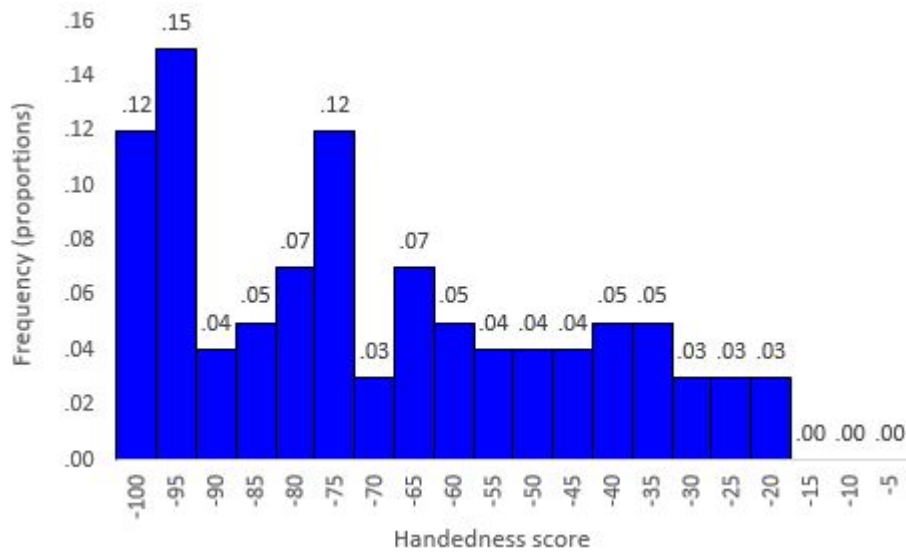
*a. Calculate a mean value

- *b. Calculate standard deviation
- *c. Find the mode
- *d. Look at data using a histogram
- e. Perform a paired t test
- f. Analyze data using a one-way ANOVA
- g. Conduct a factorial ANOVA
- h. Perform a two-sample t test

4. Which of these is an inferential statistical technique?

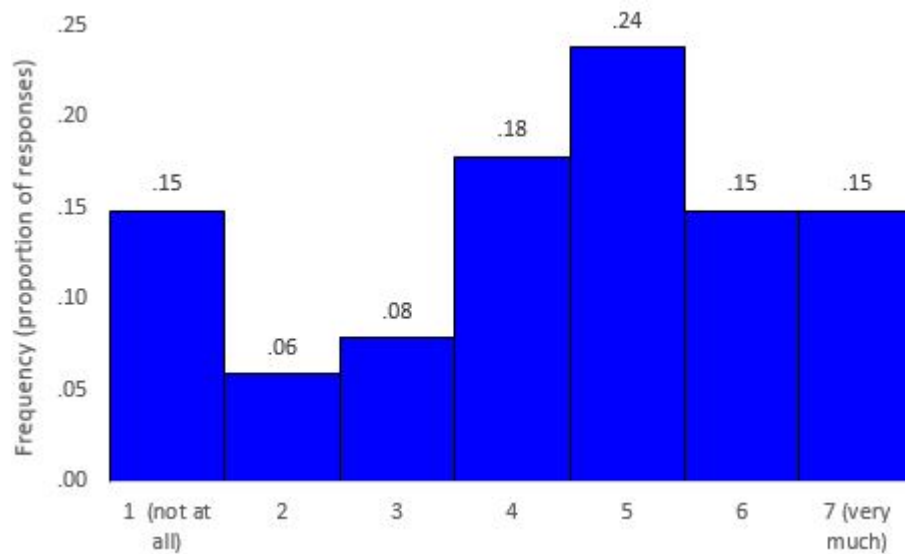
- a. Find the mode
- *b. Analyze data using a one-way ANOVA
- *c. Conduct a factorial ANOVA
- *d. Perform a two-sample t test
- e. Look at data using a histogram
- *f. Perform a paired t test
- g. Calculate a mean value
- h. Calculate standard deviation

6. Some people are left-handed, which means they prefer to use their left hand more than their right. The strength of people's preference varies and can be measured using a questionnaire that yields scores from -5 to -100 in 5-point increments. A score of -5 indicates a very slight preference for the left hand over the right whereas a score of -100 indicates a very strong preference. Here is a histogram showing scores from a random sample of left-handers. Based only on the histogram, which of the following can we say?



- a. The mean score is -70
- *b. The most common score is -95
- c. Most people got a score of -95

7. I asked a random sample of people how much they believe in ghosts. Responses were given on a scale ranging from 1 (not at all) to 7 (very much). Here is a histogram showing responses. Based only on the histogram, which of the following can we say?

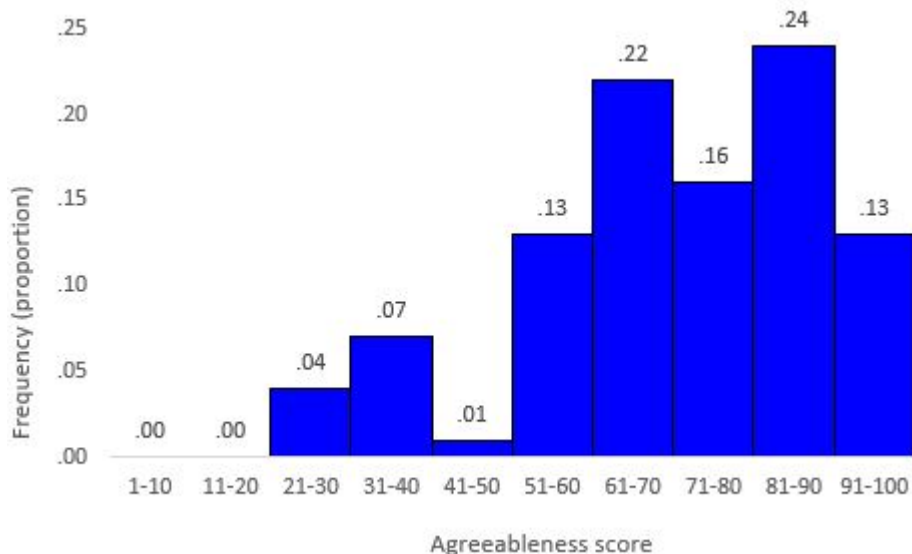


- a. Most people got a score of 5

*b. Believing very much in ghosts was as common as believing in them not at all

c. The average score was 5

8. Agreeableness is an important personality trait. People who score high on agreeableness are very friendly and easy to get along with. People who score low on agreeableness are not so friendly and are difficult to get along with. I measured agreeableness in a random sample of people. Scores are shown here in a histogram; I grouped scores into 10-point ranges. Based only on the histogram, which of the following can we say?



*a. The most common outcome was for people to score in the 81-90 range

b. Most people scored in the 81-90 range

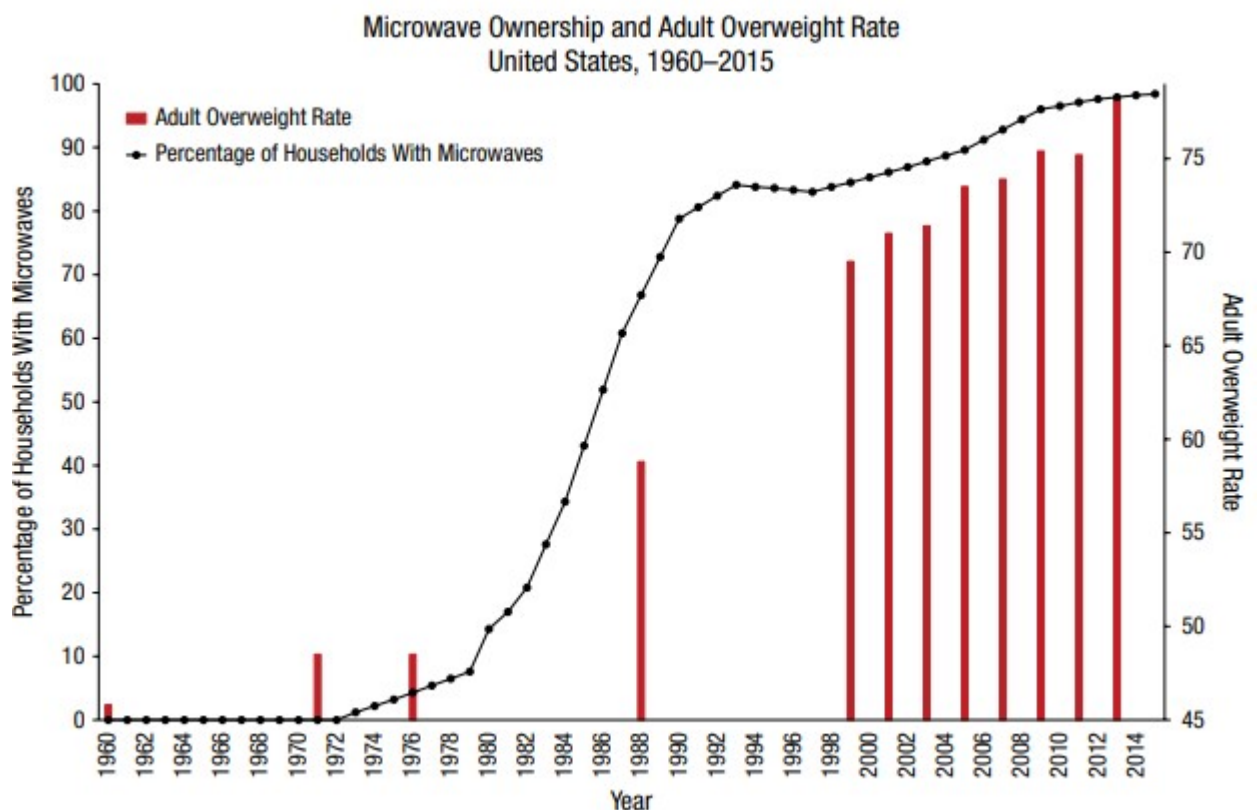
c. The mean score was in the 61-70 range

*d. Medium-levels of friendliness (51-60) were as common as very high levels (91-100)

9. I conducted an investigation in which I took a random sample of UofL students and asked them if they affiliated with the Democratic Party or the Republican Party. I was interested in whether party affiliation might explain views about family, so, as a response variable, I asked people how many children they expected to have in their lifetime. Students who affiliated with the Democratic Party said they intended to have, on average, 2.0 children. Students who affiliated with the Republican Party said they intended to have, on average, 2.85 children. Which of the following can we say?

- a. Affiliating with the Republican Party causes people to want more children
- b. Responses were more variable among people who affiliated with the Republican Party
- *c. The difference between those who affiliate with the two parties could be driven by a third variable

10. A recent investigation examined the relationship between the percentage of U.S. households with a microwave and the percentage of overweight adults. Results are shown here. (Note that the percentage of overweight adults was not available for every year, which is why some years don't have red lines.) The finding is clear, especially looking at the years 1999-2014. There was a steady rise in microwave ownership and a steady rise in the percentage of overweight adults. Based on this, which of the following can we say?

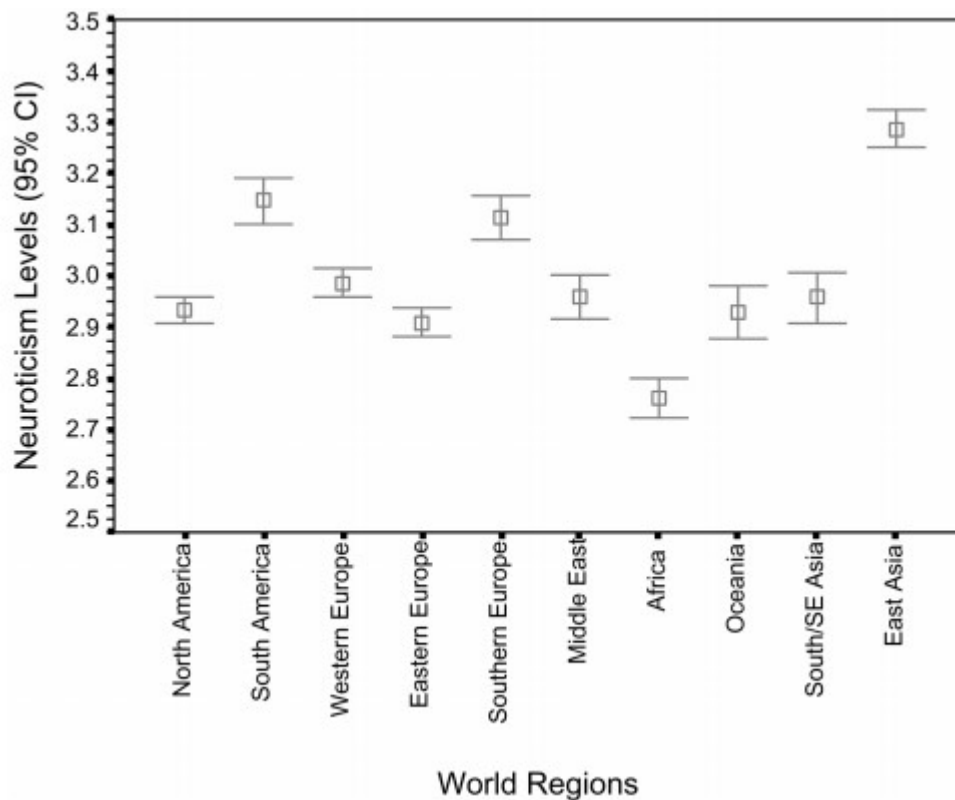


- a. Increasing microwave ownership has caused an increasing number of Americans to become overweight

*b. An investigation of this sort cannot provide convincing evidence of causation

c. This investigation is an experiment

11. Neuroticism is an important personality trait. People who are high on neuroticism tend to see most things in a negative light. People who are low on neuroticism are generally more positive people. One investigation looked at levels of neuroticism around the world. The researchers divided the world into ten major regions and reported the average neuroticism level for a large sample of people living in each region. The data are shown here. (Note that the squares show the average neuroticism value; ignore the lines above and below the squares.) Which of the following can we say?



*a. Neuroticism levels were about the same in Western Europe as in the Middle East

b. Living in Africa causes a decrease in neuroticism

c. Living in East Asia causes an increase in neuroticism

12. Suppose researchers want to know if people who live in the south are less healthy than people who live in the north. They ask 50 southerners and 50 northerners for their body mass index (BMI). They find that on average southerners have a BMI that is 1.3 points higher than northerners. The result of a two-sample t test is $t(98) = 2.3$, $p < .05$. Which of the following can we say?

- a. The investigation provides evidence that living in the south causes people to be less healthy
- b. The investigation proves that living in the south causes people to be less healthy
- *c. neither A nor B

13. What is the standard deviation of the following five numbers? 10, 9, 2, 6, 4 [Round your final answer to two decimal places.]

Correct Answer Range:
2.99 +/- 1.e-002

14. What is the standard deviation of the following five numbers? 7, 8, 10, 9, 1 [Round your final answer to two decimal places.]

Correct Answer Range:
3.16 +/- 1.e-002

15. What is the standard deviation of the following five numbers? 7, 6, 1, 10, 5 [Round your final answer to two decimal places.]

Correct Answer Range:
2.93 +/- 1.e-002

16. What is the standard deviation of the following five numbers? 9, 4, 6, 6, 8 [Round your final answer to two decimal places.]

Correct Answer Range:
1.74 +/- 1.e-002

17. Which of the following tells you the average amount by which scores differ from the mean?

- *a. the standard deviation

- b. the variance
- c. both A and B
- d. neither A nor B

18. Imagine you get a new job. Your salary is \$60,000 per year. Nationwide, the average starting salary for the same job is \$57,500. Clearly, you're making more than the average. But does your salary differ from the national average by more than the average amount?

- a. Yes
- b. No
- c. you cannot answer the question without seeing a histogram of salaries
- *d. you cannot answer the question without knowing the standard deviation for salaries

19. The average daily temperature and the standard deviation of daily temperatures is shown for two different states.

State	Average daily temperature in degrees Fahrenheit	Standard deviation
Hawaii	78	2.52
Oklahoma	77	10.57

A temperature of 85 is:

- a. more than the average amount above the mean for Oklahoma
- *b. more than the average amount above the mean for Hawaii
- c. both A and B
- d. neither A nor B

20. Knowing the standard deviation for a set of scores is useful because it tells you:

- *a. whether the mean score for the set is unusual
- b. whether the scores are normally distributed or skewed
- c. the average amount by which scores differ from the mean
- d. the central tendency for all scores in the set

21. What determines how long people live? To answer that question, researchers take a random sample of people who are 70 years old. The researchers record which subjects are male and which are female. They also record which do not exercise at all, which exercise occasionally, and which exercise daily. Finally, they record which subjects are not religious at all, which are somewhat religious, and which are very religious. They track these individuals for 5 years and observe who has died during that period and who is still alive. The number of explanatory variables in this investigation is:

- a. one
- b. two
- *c. three
- d. four

22. In this class, PUREMEMs are administered at the end of lectures, but students have sometimes suggested that I administer PUREMEMs at the beginning of the next class meeting. Then students could review the lecture content before answering questions about it. To test whether this would be more beneficial than giving PUREMEMs at the end of class, and better than not giving PUREMEMs at all, suppose I take a random sample of PSYC301 students and randomly assign them to three conditions: Students in one condition take PUREMEMs at the end of lecture, students in another condition take PUREMEMs at the start of the next class meeting, and students in the third condition do not take PUREMEMs at all. At the end of the semester, I calculate each student's average exam score. The number of explanatory variables in this investigation is:

- *a. one
- b. two
- c. three
- d. four

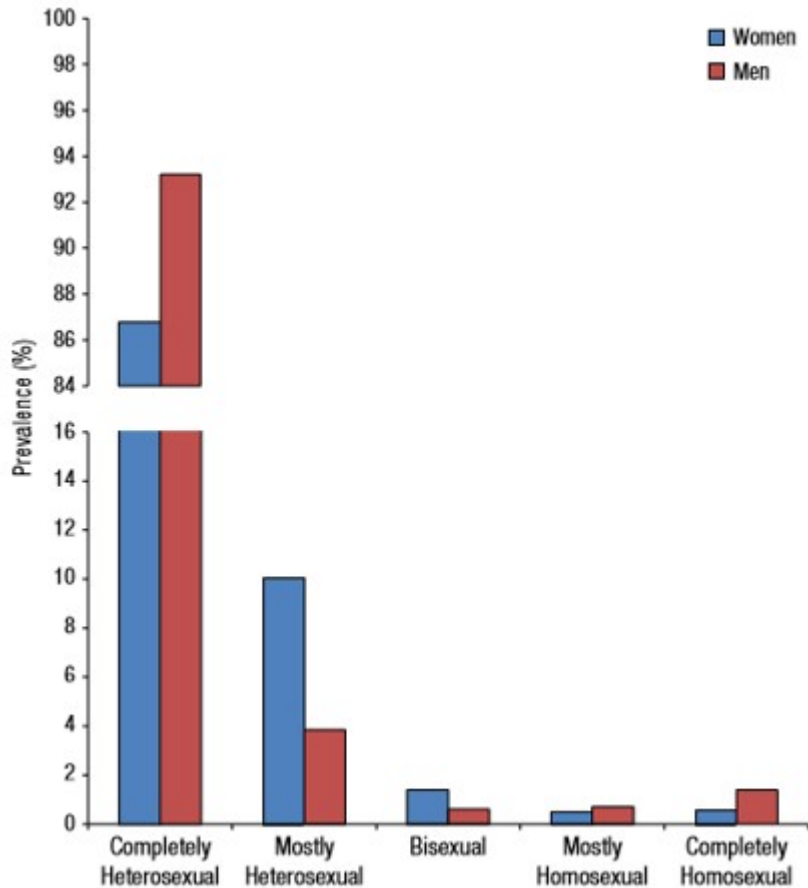
23. Suppose researchers are interested in the effect of age and mood on people's ability to identify facial expressions. The researchers take a random sample of adults in their 20s and a random sample of adults in their 40s. Within each age group, the researchers randomly assign some people to a condition in which their mood is elevated (they are made happier), some people to a condition in which their mood is depressed (they are made sadder), and some people to a condition in which their mood is unchanged. The researchers test everyone on their ability to identify facial expressions and record each person's test score. The number of explanatory variables in this investigation is:

- a. one
- *b. two
- c. three
- d. four

24. What determines the number of words young children know? To answer that question, researchers take a random sample of 4 year-olds and record whether or not each child is read to at night by one of their caregivers. The researchers also record the education level of each child's mother (high school, college, or post-graduate), the education level of each child's father (high school, college, or post-graduate), and whether or not the child has any siblings. Finally, the researchers give the children a vocabulary test to assess the number of words they know. The number of explanatory variables in this investigation is:

- a. one
- b. two
- c. three
- *d. four

25. Researchers took a random sample of more than 100,000 women and nearly 75,000 men and asked them to describe their sexual orientation using one of the labels seen on this figure. Plotted on the y axis are the percentage of women and men using each label. Without doing any inferential statistics, which of the following can we say?



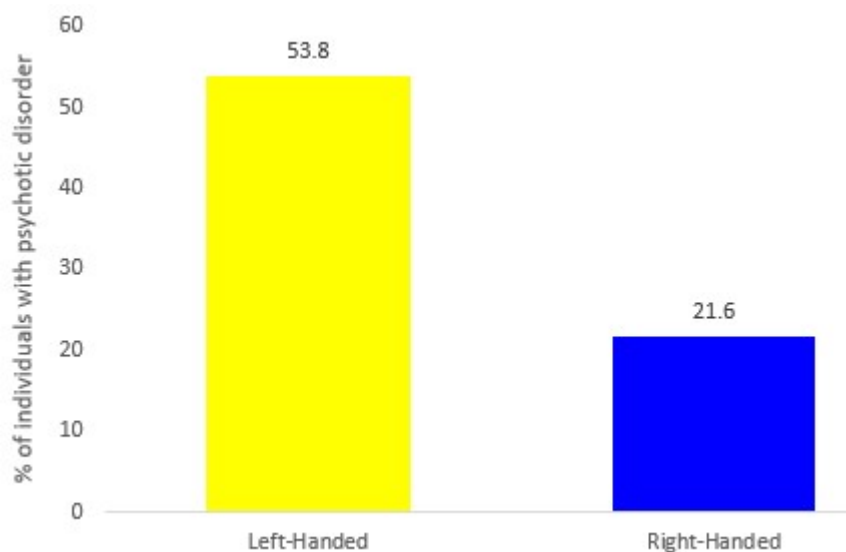
- a. In the population, more men than women describe themselves as completely heterosexual
- b. In the population, more women than men describe themselves as mostly heterosexual
- *c. We cannot say anything about the population

26. Research has sometimes indicated that women have better memory than men, at least for some types of information. Therefore, in a recent investigation of my own, I looked for a sex difference in memory. I had a random sample of women and men view a series of slides depicting a theft from an office. Then I gave subjects a test on which I asked about visual details that were present in the slides. I found that women accurately answered, on average, 47% of questions while men accurately answered only 36% of questions. Without doing any inferential statistical tests, which of the following can we say?

- *a. The central tendency of test scores in the sample was higher for women than men

- b. In the population, average accuracy is higher for women than men
- c. In the population, average accuracy is higher for men than women

27. Some research has indicated that left-handed people are more likely than right-handed people to have schizophrenia, which is a severe mental illness characterized by bizarre or severely impaired behavior. In an investigation I read about several years ago, researchers studied individuals who came to a mental health clinic. They asked the individuals which hand they wrote with and, on that basis, classified individuals as left- or right-handed. They recorded the percentage of people in each handedness group meeting criteria for schizophrenia. The results are shown here. Without doing any inferential statistics, which of the following can we say on the basis of these data?



- a. Schizophrenia is more common in the population of left-handers than the population of right-handers
- *b. In this sample, the handedness groups differed in the prevalence of schizophrenia
- c. Most left-handed people in the population have schizophrenia

28. Researchers wondered whether experienced police officers are more likely than police trainees to notice the presence of a gun in a car during a traffic stop. They randomly sampled 75 experienced officers and 100 trainees and had them go through a simulated traffic stop. The researchers placed a gun in the car during the simulated traffic stop, as seen in the picture here. They recorded the percentage of experienced officers and trainees who noticed the gun. 67% of the experienced

officers noticed, but only 42% of the trainees noticed. Given these data, but without doing any inferential statistics, it would be correct to say that:



Fig. 2 View through the driver-side window, with a gun visible on the passenger dash (indicated by the yellow arrow)

- a. The research provides evidence that, in the populations of experienced officers and trainees, experienced officers are more likely to notice guns
- b. The research proves that, in the populations of experienced officers and trainees, experienced officers are more likely to notice guns
- c. The research provides evidence that, in the populations of experienced officers and trainees, trainees are more likely to notice guns
- *d. We do not know anything about the populations yet

29. Observational studies often involve comparing two or more groups that differ in a variety of ways. Because of this:

- a. it is not appropriate to use inferential statistics with observational studies
- b. it is not appropriate to use descriptive statistics with observational studies
- *c. it is not possible to establish causation from observational studies

30. Experiments involve comparing groups that are similar to each other, except in terms of level of the explanatory variable. Because of this:

- a. experiments are vulnerable to the third variable problem
- *b. it is possible to establish causation from experiments
- c. experiments cannot provide evidence of causation

31. Randomly assigning subjects to groups helps establish causation because it allows us to:

- *a. compare similar groups
- b. study an entire population
- c. use inferential statistics

32. Which of the following must be true in order to establish that an explanatory variable causes differences between groups?

- *a. the groups must be similar
- b. the groups must be measured on a numeric response variable
- c. the sample size of the investigation must be as large as practically possible

33. Which of the following is an outlier?

- *a. A score that is 2.6 SD above the mean
- b. A score that is 1.96 SD above the mean
- c. A score that 2.4 SD below the mean
- d. A score that is 1.64 below the mean

34. Suppose the mean grade point average (GPA) in a sample of students is 2.7. Which of the following is an outlier?

- a. A GPA of 3.2

- b. A GPA of 1.7
- c. A GPA of 3.5
- d. None of the above are outliers
- *e. Not enough information is given to know which, if any, are outliers

35. Suppose the mean of a variable is 100 and the SD is 10. Which of the following is an outlier?

- a. A score of 110
- *b. A score of 70
- *c. A score of 130
- d. A score of 120
- e. A score of 97
- f. A score of 113

36. An outlier is a score that is _____ SD or more from the mean.

Correct Answer(s):
a. 2.5

37. Suppose the mean of a variable is 70 and the SD is 5. What is the Z score of an individual whose raw score is 75?

- a. +5.0
- *b. +1.0
- c. +1.5
- d. Not enough information is given to calculate the Z score

38. Suppose the mean of a variable is 4.3. What is the Z score of an individual whose raw score is 4.2?

- a. -.10

- b. -.01
- c. -1.0
- *d. Not enough information is given to calculate the Z score

39. To calculate an individual's Z score, you subtract the _____ of the sample from the individual's raw score and divide by the _____ of the sample.

Answers:

- a. mean, average
- b. standard deviation, SD

40. Suppose the mean of a variable is 12 and the SD is 4. The Z score of an individual whose raw score is 14 is + _____?

Answers:

- a. .50, .5, 0.50, 0.5

41. TRUE or FALSE: There is general agreement among researchers that, if any outliers are identified in a data set, they should be removed before conducting additional data analyses.

- a. True
- *b. False

42. Suppose researchers are studying scores on the Highly Sensitive Person Test. They identify two subjects as outliers. What should they do?

- *a. There is no single right answer to this question
- b. Remove the subject who is most extreme outlier but retain the other
- c. Retain both subjects in the data set, but report that they were outliers
- d. Remove both subjects from the data set

43. TRUE or FALSE: Researchers must decide for themselves whether to remove outliers or retain them when conducting data analyses.

- *a. True
- b. False

44. Which of the following is true about the treatment of outliers?

- *a. Outliers are sometimes removed and sometimes retained; it's a judgment call for the researcher
- b. Outliers are almost always retained in data sets when conducting statistical analyses
- c. Outliers are almost always removed from data sets before conducting statistical analyses

45. Given the normal distribution, the percentage of individuals with Z scores higher than -0.75 is ____%.

Correct Answer(s) :

- a. 77.34
- b. 77.34%

46. Given the normal distribution, the percentage of individuals with Z scores higher than -1.5 is ____%.

Correct Answer(s) :

- a. 93.32
- b. 93.32%

47. Given the normal distribution, the percentage of individuals with Z scores higher than -1.99 is ____%.

Correct Answer(s) :

- a. 97.67
- b. 97.67%

48. Given the normal distribution, the percentage of individuals with Z scores higher than -2.49 is ____%.

Correct Answer(s) :

- a. 99.36
- b. 99.36%

49. Which of the following is the symbol for population variance?

- *a. σ^2
- b. σ
- c. μ
- d. μ^2

50. σ^2 is the symbol for:

- *a. None of these
- b. The standard deviation of a sample
- c. The variance of a sample
- d. The mean of a sample

51. The variance of all the scores in an entire population is given by which symbol?

- *a. σ^2
- b. Z
- c. p
- d. μ
- e. None of these

52. σ^2 is the symbol for:

- *a. the population variance
- b. the population mean
- c. the population standard deviation
- d. None of these

53. When the result of an investigation is statistically significant, researchers will say that they:

- *a. Reject the null hypothesis
- *b. Found support for the research hypothesis
- c. Accept the research hypothesis
- d. Disproved the null hypothesis

54. When the result of an investigation is not statistically significant, researchers will say that they:

- *a. Fail to reject the null hypothesis
- b. Reject the null hypothesis
- c. Reject the research hypothesis
- d. Disproved the research hypothesis

55. When researchers fail to reject the null hypothesis, they also say that they:

- *a. Obtained a result that was not statistically significant
- *b. Did not find support for the research hypothesis
- c. Obtained a statistically insignificant result
- d. Obtained a statistically significant result
- e. Reject the research hypothesis

56. When researchers do not find support for the research hypothesis, they also say that they:

- a. Obtained a statistically insignificant result
- b. Obtained a statistically significant result
- *c. Fail to reject the null hypothesis
- d. Reject the null hypothesis

e. Reject the research hypothesis

57. When researchers report p _____ .05, it means that, under conditions specified by the null hypothesis, results like the reported one occur in fewer than 5% of all investigations

*a. <

b. >

c. =

d. $\neq$

58. Suppose researchers conduct an investigation and obtain a result that would occur in fewer than 5% of all investigations, assuming the null hypothesis is true. The researchers should report:

*a. $p < .05$

b. $p < 5\%$

c. $p \leq 5\%$

d. $p > .05$

59. If the p value associated with a result is greater than .05, it means that, according to the null hypothesis, results like this should occur in _____ than _____ % of all investigations.

Answers:

a. more, greater

b. five, 5

60. Imagine you conduct an investigation and the p value associated with your result is less than .05. This means that, in the world described by the null hypothesis, results like the one you obtained occur in fewer than _____ % of all investigations.

Correct Answer(s) :

a. five

b. 5

61. Given the normal distribution, the percentage of individuals with Z scores higher than +1.22 is ____%.

Correct Answer(s) :

- a. 11.12
- b. 11.12%

62. Given the normal distribution, the percentage of individuals with Z scores higher than +.30 is ____%.

Correct Answer(s) :

- a. 38.21
- b. 38.21%

63. Given the normal distribution, the percentage of individuals with Z scores higher than +2.88 is ____%.

Correct Answer(s) :

- a. 0.2
- b. .20%
- c. .2
- d. .2%
- e. 0.2
- f. 0.2%
- g. 0.20
- h. 0.20%
- i. .20

64. Given the normal distribution, the percentage of individuals with Z scores higher than +1.61 is ____%.

Correct Answer(s) :

- a. 5.37
- b. 5.37%

65. ____-tailed tests are more common than ____-tailed tests because ____-tailed tests require a ____ unusual sample score in order to reject the null hypothesis.

- *a. Two; one; two; more
- b. One; two; one; more

- c. Two; one; two; less
- d. One; two; one; less

66. Which of the following is true?

- a. Researchers worry that two-tailed tests (versus one-tailed tests) will lead to more incorrect rejections of the null hypothesis
- b. It is more common for researchers to use one-tailed tests than two-tailed tests
- *c. It is more common for researchers to use two-tailed tests than one-tailed tests
- *d. Researchers worry that one-tailed tests (versus two-tailed tests) will lead to more incorrect rejections of the null hypothesis

67. Which of the following is true?

- *a. Two-tailed tests are more common than one-tailed tests because two-tailed tests reduce the likelihood of incorrectly rejecting the null hypothesis
- b. Researchers typically use one-tailed tests to test nondirectional research hypotheses
- c. Researchers typically use one-tailed tests to test directional research hypotheses
- d. Two-tailed tests are more common than one-tailed tests because nondirectional research hypotheses are more common than directional ones

68. Which of the following is true?

- a. One-tailed tests are more common than two-tailed tests
- *b. Two-tailed tests are more common than one-tailed tests

*c. Two-tailed tests require a more unusual sample score in order to reject the null hypothesis

d. One-tailed tests require a more unusual sample score in order to reject the null hypothesis

69. Suppose that, in the population, individual scores on the Highly Sensitive Person Test are normally distributed with a variance of 36. We have a comparison distribution (CD) based on samples of 12. Which of the following statements is true about the CD?

a. Its variance is 12

*b. Its variance is 3

c. Its SD is 6

*d. Its SD is the square root of 3

*e. It is normally distributed

70. Suppose that, in the population, individual scores on the Highly Sensitive Person Test have a variance of 30. The scores in the population are NOT normally distributed. We have a comparison distribution (CD) based on samples of 30. Which of the following statements is true about the CD?

*a. It is normally distributed

b. It is NOT normally distributed

c. Its variance is 30

*d. Its variance is 1

e. Its SD is the square root of 30

71. Suppose that, in the population, individual scores on the Highly Sensitive Person Test have a variance of 25 and are normally distributed. We have a comparison distribution (CD) based on samples of 10. Which of the following statements is true about the CD?

*a. Its SD is the square root of 2.5

b. Its SD is 5

- *c. It is normally distributed
- d. It is NOT normally distributed
- e. Its variance is 25

72. Suppose that, in the population, individual scores on the Highly Sensitive Person Test have a variance of 28 and they are NOT normally distributed. We have a comparison distribution (CD) based on samples of 14. Which the following statements is true about the CD?

- *a. Its SD is the square root of 2
- b. Its SD is the square root of 28
- *c. Its variance is 2
- d. Its variance is 28
- e. It is normally distributed
- *f. It is NOT normally distributed

73. In order to obtain a statistically significant result from a two-tailed test, the sample score must be:

- *a. Among the rarest 2.5% of low scores OR the rarest 2.5% of high scores
- b. Among the rarest 5% of low scores OR the rarest 5% of high scores
- c. Among the rarest 5% of high scores
- d. Among the rarest 5% of low scores

74. A two-tailed test yields a statistically significant result when the sample score is:

- a. Among the rarest 2.5% of high scores
- b. Among the rarest 2.5% of low scores
- *c. Either

75. If you're told that a two-tailed test yielded a statistically significant result, and you're also told that the sample score was unusually low, then you can be sure that the sample score was among the lowest _____% of scores on the comparison distribution.

Correct Answer(s) :

a. 2.5

76. A two-tailed test yields a statistically significant result when the sample score is among the rarest _____ % of low scores OR among the rarest _____ % of high scores.

Answers:

a. 2.5

b. 2.5

77. Distributions of sample means are _____ less variable than the distribution of individual scores from which the samples are drawn.

*a. always

b. sometimes

c. never

78. TRUE or FALSE: Distributions of individual scores will always be more variable than distributions of sample means drawn from a distribution of individual scores.

*a. True

b. False

79. Suppose that there is a lot of variability in the distribution of individual scores on the Highly Sensitive Person Test. Then suppose that samples are drawn from the population and a distribution of sample means is created. Which of the following will be true about the distribution of sample means?

*a. Its variability will be less than the variability of individual scores

b. Its variability will be greater than the variability of individual scores

- c. Its variability will be exactly equal to the variability of individual scores
- d. Its variability will be approximately equal to the variability of individual scores

80. Distributions of sample means are _____ than the distribution of individual scores from which the samples are drawn.

- a. always more variable
- *b. always less variable
- c. sometimes more variable and sometimes less variable

81. Researchers could do Z tests more often if:

- *a. There were more cases in which they knew the mean and variance of an existing population
- b. It were possible to conduct two-tailed Z tests
- c. If it were possible to conduct one-tailed Z tests
- d. Z tests allowed you to make inferences about a population based on a sample

82. Which of the following is true about Z tests?

- *a. They can be conducted only if researchers know the mean and variance of an existing population
- b. They are one of the most commonly conducted inferential statistical tests
- c. It is difficult, but not impossible, to conduct a Z test without know the mean and variance of an existing population

d. The mean of the comparison distribution when conducting a Z test is always zero

83. Which of the following must be true in order to conduct a Z test?

*a. Researchers must know both the mean and the variance of an existing population

b. Researchers do not need to know either the mean or the variance of an existing population

c. Researchers must know either the mean or the variance of an existing population

d. Researchers do not need to know the variance but they must know the mean of an existing population

84. Which of the following is true about Z tests?

*a. You must know the mean of an existing population in order to conduct a Z test

*b. You must know the SD of an existing population in order to conduct a Z test

*c. Scientists rarely perform Z tests

d. Scientists often perform Z tests

85. Researchers prefer larger samples over smaller samples because larger samples:

- *a. decrease the variability of comparison distributions
- b. increase the variability of comparison distributions
- c. increase the mean of comparison distributions
- d. decrease the mean of comparison distributions

86. Imagine three different investigations: One with a sample size of 100, one with a sample size of 200, and one with a sample size of 300. Which sample size would produce the least variable comparison distribution?

- *a. 300
- b. 100
- c. 200
- d. All three sample sizes would produce the same amount of variability in the comparison distribution

87. It is possible to decrease the variability of a comparison distribution by:

- *a. increasing the sample size of an investigation
- b. decreasing the sample size of an investigation
- c. conducting an observational study (instead of an experiment)
- d. conducting an experiment (instead of an observational study)

88. Larger sample sizes produce comparison distributions that are:

- *a. less variable
- b. more skewed
- c. more like the t distribution
- d. multimodal

89. When conducting a _____, the mean of the comparison distribution can be anything you want it to be.

- *a. one-sample t test
- b. Z test
- c. any type of inferential statistical test
- d. None of the above

90. When conducting a one-sample t test, which of the following can you set to be anything you want?

- a. the variance of the comparison distribution
- b. the SD of the comparison distribution
- *c. the mean of the comparison distribution
- d. All of the above

91. TRUE or FALSE: The mean of the comparison distribution for a one-sample t test can be anything you want it to be.

- *a. True
- b. False

92. The mean of the comparison distribution for a one-sample t test is:

- *a. anything you want it to be
- b. equal to the mean of an existing population
- c. one
- d. zero

93. Suppose you conduct a one-sample t test on a sample of size 100. The comparison distribution will be a _____ distribution with _____ df.

Answers:

- a. t
- b. 99

94. If you conduct a one-sample t test on a sample of size 75, the comparison distribution will be:

- *a. a t distribution with 74 df
- b. normal
- c. a t distribution with 75 df
- d. a t distribution with 73 df
- e. Not enough information is given here to determine the shape of the comparison distribution

95. If you are told that the comparison distribution for a one-sample t test is a t distribution with 149 df, then you know that the sample size was _____.

Correct Answer(s):
a. 150

96. Suppose a one-sample t test is conducted on a sample of size 60. The comparison distribution will be a _____ distribution with _____ df.

Answers:
a. t
b. 59