Mid-Term Exam
PH 660: Principles of Biostatistics
Monroe College
Spring 2022

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Q1. Which of these variables is categorical?

A. Height in feet
B. Body Mass Index (BMI)
C. Educational level
D. None of the above ←

Q2. A study of education and stress suggests that education is associated with an increased risk of developing stress. *Identify both the explanatory variable and response variable in the study.*

education is the explanatory variable which is the factor that cause the outcome which is the response variable and is the stress

Q3. As the sample gets larger and larger, the sample mean tends to get farther and farther away from the population mean.

A. True
B. False ←
C. None of the above

Q4. Which of the following statements is incorrect?

A. Fifty percent of the observations in a distribution fall above and below the median value.

B. The mean of a distribution describes the gravitational center of all of the observations.

C. The mode of a distribution indicates the observation with the most weight in a distribution.

D. We obtain the value of the interquartile range (IQR) by subtracting Q2 from Q3. ←

Q5. Volunteer bias occurs when self-selected participants are atypical of the source population.

A. True ←
B. False
C. None of the above

Q6. Which of the following statement fully describes what we know about distributional shape?

A. Distributional shape is described in terms of symmetry
B. Distributional shape is described in terms of direction of skew.
C. Distributional shape is described in terms of modality and kurtosis.
D. Distributional shape is described in terms of all of the above.

Q7. Which of the following statistics is most resistant to the inclusion of outliers in a dataset?

A. Mean
B. Median
C. Mode
D. Either A or B

Q8. Randomization is important in research because:

A. It represents blinding
B. It produces comparability
C. It ensures compliance by all the participants
D. All of the above

Q9. Explanatory variables in an experiment are referred to as

A. Factors
B. Interactions
C. Subjects
D. None of the above

Q10. In experimental studies, the investigator sometimes assigns the exposure to one group while leaving the other non-exposed

A. True
B. False
C. None of the above

Q11. A measurement can be precise but not valid.

A. True
B. False
C. None of the above

Q12. Which of the following is true about disjoint events?

A. Knowing that A has occurred lets you know with certainty that B has not occurred. ←
B. Knowing that A has occurred provides no further information about the occurrence of B.
C. Knowing that A has occurred provides limited information about the occurrence of B.
D. None of the above

Q13. The probability of a complement is equal to 1 minus the probability of the event

A. True ←
B. False
C. None of the above

Q14. The numerical quantity that takes on different values depending on chance is known as:

A. quantum variable
B. event variable
C. random variable ←
D. none of the above

Q15. When the mean, the median and the mode in a distribution are equal, what can we say about the shape of the distribution?

A. The shape of the distribution is skewed to the right.
B. The shape of the distribution is skewed to the left.
C. The shape of the distribution is asymmetrical.
D. None of the above ←

Q16. Quartile 3 (Q3) cuts off top quarter of data, and it is actually equal to the median of the upper half of the data set.

A. True ←
B. False
C. None of the above