<u>Glossary</u>

1. Bias

Bias can refer either to a sample not being representative of the population, or to the difference between the expected value of an estimator and the true value.

2. Consistency

An estimator is said to be consistent if the variance of its sampling distribution decreases with increasing sample size.

3. Estimate

An estimate is a specific observed value of a statistic.

4. Estimator

Estimator is a function of the known data that is used to estimate an unknown parameter; an estimate is the result from the actual application of the function to a particular set of data. The mean can be used as an estimator.

5. Interval estimate

Interval estimate is the use of sample data to calculate an interval of possible (or probable) values of an unknown population parameter, in contrast to point estimation, which is a single number.

6. Margin of error

The margin of error is a statistic expressing the amount of random sampling error in a survey's results.

7. Point estimate

A point estimate of a population parameter is a single value of a statistic. For example, the value of the sample mean y bar is a point estimate of the population mean μ

8. Probability distribution

Probability distribution is a function that gives the probability of all elements in a given space.

9. Sample mean

The sample mean \overline{X} from a group of observations is an estimate of the population mean μ

10. Sampling

Sampling is a process of selecting observations to obtain knowledge about a population.

11. Sampling distribution

This is the probability distribution, under repeated sampling of the population, of a given statistic.

12. Standard deviation

This is the most commonly used measure of statistical dispersion. It is the square root of the variance, and is generally written as σ (sigma).

13. Statistic

Statistic is the result of applying a statistical algorithm to a data set. It can also be described as an observable random variable.

14. Statistical parameter

Statistical parameter is a parameter that indexes a family of probability distributions.

15. Sufficiency If an estimate consists of sufficient information about the population parameter being estimated then estimate is said to be sufficient.