Statistics Foundations 3: Using Data Sets

With Eddie Davila

Use these terms and definitions below to understand concepts taught in the course.

Transcript Search: note that you can search for terms directly within the course. To search video text, switch to the Transcript tab, then press Cmd/Ctrl + F on your keyboard to run a search within the active transcript.

Term	Definition
central limit theorem	A statistical theory stating that the distribution of sample means approaches a normal distribution as the sample size becomes larger, regardless of the population's distribution
confidence intervals	A range of values derived from sample statistics that is likely to contain the value of an unknown population parameter, expressed at a specified confidence level (e.g., 95%)
hypothesis	A proposed explanation or prediction that can be tested through study and experimentation, often formulated as a null hypothesis (no effect) and an alternative hypothesis (some effect)
one-tailed test	A type of hypothesis test where the area of interest is only in one tail of the distribution, used when testing for the possibility of the relationship in one direction
standard error	The standard deviation of the sampling distribution of a statistic, typically the mean, indicating the precision of the sample mean estimate of the population mean
two-tailed test	A type of hypothesis test where the areas of interest are in both tails of the distribution, used when testing for the possibility of the relationship in both directions
type one error	The error of rejecting a true null hypothesis (a false positive), denoted by alpha (α), often set at a significance level of 0.05

| type two error | The error of failing to reject a false null hypothesis (a false negative), denoted by beta (β), indicating a lack of power in the test |