

Key Differences Between Descriptive and Inferential Statistics

This table summarizes the main differences between descriptive and inferential statistics, highlighting their respective purposes, scopes, objectives, examples, and statistical techniques.

Aspect	Descriptive Statistics	Inferential Statistics
Purpose	Summarizes and describes features of a dataset	Makes inferences, predictions, or generalizations about a population based on sample data
Scope	Focuses on specific sample data	Extends findings to a larger population
Objective	Describes characteristics of the data without generalizing	Generalizes findings from sample to population
Examples	Measures of central tendency, dispersion, frequency	Hypothesis testing, regression analysis, confidence intervals

	distributions, graphical representations	
Data Analysis	Provides a summary and visualization of data	Draws conclusions, tests hypotheses, and makes predictions
Population Representation	Represents features within the sample only	Represents features of the larger population
Statistical Techniques	Mean, median, mode, range, variance, standard deviation, histograms, box plots, etc.	Hypothesis testing, regression analysis, confidence intervals
Goal	To provide insights into the characteristics of a dataset	To make predictions or draw conclusions about a population