Introduction

Descriptive Statistics. Histograms, measures of location (mean, median, mode), measures dispersion (IQ range, SD), percentiles, plotting data.


The Normal distribution.

Sampling Distributions The distribution of the sample mean, normal approximation.

Confidence Intervals Confidence interval for the population mean, when the variance is known, when it is not.

Comparing two independent samples Testing statistical hypotheses a. (Null and alternative hypotheis, type I and type II errors, P-value, level of significance) b. Tests concerning the mean, when variance known. c. Tests concerning the mean, were variance unknown (t-tests).

Statistical principles when designing experiments

Comparison of Paired Samples

Analysis of Categorical Data Contingency Tables, Chisquare test, relative risk and odds ratio.

Comparison of k independent samples. Analysis of variance models, F tests, multiple comparisons.

Linear Regression and Correlation

Multivariate Techniques