Find your method

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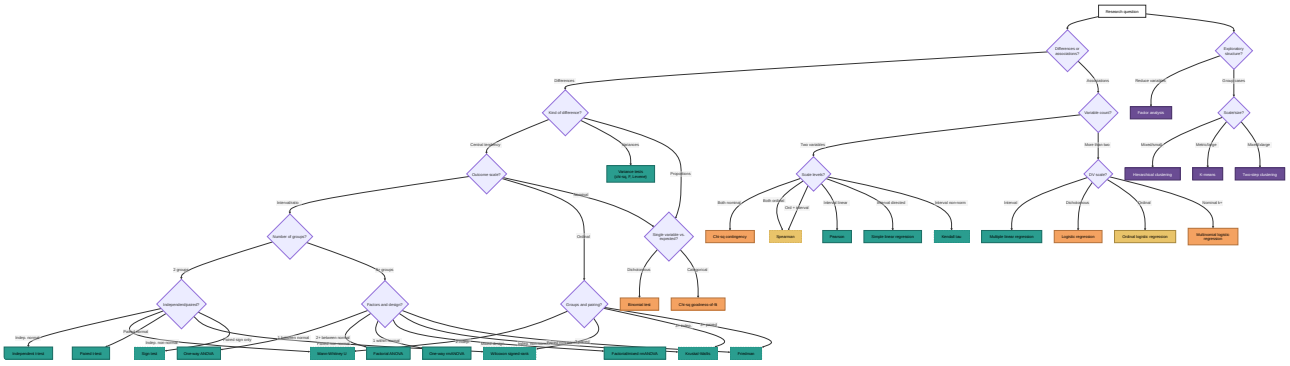
Open the book here when you don’t know which chapter to read. Three routes are offered: a flowchart from research question to statistical test, a quick lookup table, and a click-through wizard hosted live.

- **Interactive wizard** — three to five questions, one recommended test.
- **Static decision tree** (below) — the same logic, single page, suitable for printing.
- **Quick lookup table** — common scenarios mapped to a recommended chapter and section.

This chapter covers the *core* tree of classical tests (differences, associations, interdependence). Methods outside that core — survival, Bayesian, machine learning, time series, multivariate, meta-analysis, bioinformatics, study-design choices — are reached through their topic chapters or via the lookup table below.

The static decision tree

Colour encodes the scale level of the outcome; a dashed border marks a non-parametric test. Use the quick lookup links below to reach the chapters. This is an orientation aid; read the method’s assumptions and study-design checks before selecting a test.



Decision tree from research question, outcome scale and study design to candidate statistical methods.
Open the full-size decision tree

Quick lookup

A small table for the most common biomedical scenarios. The full tree above and the live wizard cover everything the table omits.

Scenario	Recommended method	Chapter
2 independent groups, metric, normal	Independent / Welch t-test	4

Scenario	Recommended method	Chapter
2 independent groups, non-normal or ordinal	Mann-Whitney U	4
2 paired groups, metric	Paired t-test	4
3+ groups, between, normal	One-way ANOVA	4
3+ groups, between, non-normal	Kruskal-Wallis	4
Two continuous, linear	Pearson correlation	4
Continuous outcome, 2+ predictors	Multiple linear regression	7
Binary outcome, 1+ predictors	Logistic regression	7
Time-to-event with censoring	Kaplan-Meier, Cox	11
Diagnostic test accuracy	Sensitivity/specificity, ROC	14
Aggregating effect sizes across studies	Pairwise meta-analysis	15
Predictive model with cross-validation	tidymodels workflow	13
Posterior inference with priors	brms / Stan	10
Repeated measures within subjects	Mixed-effects model	16
Two or more variances	Levene's test	4
Reduce variables to latent dimensions	PCA / factor analysis	8

The static tree is mirrored from the decision-tree wizard at https://cttir.github.io/tutorials/decision-tree/. Structure inspired by the University of Zurich Methodenberatung (methodenberatung.uzh.ch).