

CHOOSING A STATISTICAL TEST

The following tables are provided as a guide when choosing the statistical test for your project. The non-parametric equivalents for tests of comparison and association are provided in parentheses.

Regression Tests		
	Predictor Variable	Outcome Variable
Single Linear Regression	One continuous variable	One quantitative variable
Multiple Linear Regression	More than one predictor, continuous/categorical	One quantitative variable
Logistic Regression	More than one predictor, continuous/categorical	Binary categorical variable

Comparison Tests		
	Predictor Variable	Outcome Variable
Z-test	Two groups (>25 samples per group)	One quantitative variable
Independent t-test (Mann-Whitney U or Wilcoxon Rank Sum test)	Two groups (<25 samples per group)	One quantitative variable
Paired t-test (Wilcoxon Signed Rank test)	Two groups (<25 matched pairs)	One quantitative variable
Z-test	Two groups (>25 matched pairs)	One quantitative variable
ANOVA (Kruskal-Wallis)	Comparing more than two groups	One quantitative variable
MANOVA (ANOSIM)	Comparing more than two groups	More than one quantitative

Association Tests		
	Predictor Variable	Outcome Variable
Pearson Correlation (Spearman Rank Correlation)	Quantitative variable	Quantitative variable
Chi-square	Categorical variable	Categorical variable
Fisher Exact Test	Categorical variable (small sample size)	Categorical variable
McNemar Test	Use for paired data	