

Appendix A

A Basic Guide to Choosing Statistical Test

Outcome Variables		Predictor or Factor Variables			How many readings per patient of outcome variable?	Shape of distribution of the outcome variables		Which test to use?
How many	Type	How many	Type	If categorical, how many levels		Normally distributed - Parametric	Skewed Non-parametric	
1	cat	1	cat	2x2 or nxn	1	-	-	Pearson Chi-square/Likelihood Ratio
1	con	1	cat	2	1	✓		2-Independent Sample Ttest
1	con	1	cat	2	1		✓	Mann-Whitney U test
1	con	1	cat	2	2	✓		Paired Ttest
1	con	1	cat	2	2		✓	Wilcoxon Matched-Paired
1	con	1	cat	≥3	1	✓		1-Way ANOVA
1	con	1	cat	≥3	1		✓	Kruskal-Wallis
1	con	1	cat	≥3	≥2	✓		1-Way Repeated Measures ANOVA
1	con	1	cat	≥3	≥2	-	✓	Friedman's ANOVA
1	con	-	con	-	1	✓	-	Pearson Correlation/Regression
1	con	-	con	-	1	-	✓	Spearman's Correlation or Kendall's Tau
1	con	≥2	cat	-	1	✓	-	Independent Factorial ANOVA/Multiple Regression
1	con	≥2	cat	-	≥2	✓	-	Factorial Repeated Measures ANOVA
1	con	≥2	cat	-	1 and ≥2	✓	-	Factorial Mixed ANOVA
1	con	≥2	con	-	-	✓	-	Multiple Regression
1	con	≥2	con/cat	-	-	✓	-	Multiple Regression ANCOVA
1	cat(binary)	1	con	-	1	-	-	Logistic Regression
1	cat(binary)	≥2	con/cat	-	1	-	-	Logistic Regression
1	cat	≥2	cat	-	1	-	-	Loglinear Analysis
≥2	con	1	cat	-	-	✓	-	MANOVA
≥2	con	≥2	cat	-	-	✓	-	Factorial MANOVA
≥2	con	≥2	con/cat	-	-	✓	-	MANCOVA

*con – continuous *cat – categorical