|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Quantitative predictors |  |  |  | Correlation/regression |
|  |  |  |  |  |  |
|  |  |  |  | Normal response | Test for µ using t |
|  |  | 1 group |  |  |  |
| Quantitative response |  |  |  | Not normal | Transform, then test for µ using t |
|  |  |  |  |  |  |
|  |  |  |  | Normal response | Test for µ1-µ2 using t |
|  |  |  | Independent |  |  |
|  |  |  |  | Not normal | Wilcoxon-Mann-whitney |
|  |  |  |  |  |  |
|  | Categorical predictors (groups) | 2 groups |  | Normal response | Test for µd using paired t |
|  |  |  | Dependent |  |  |
|  |  |  |  | Not normal | Sign test or signed-rank test |
|  |  |  |  |  |  |
|  |  |  |  | Common σ | ANOVA |
|  |  |  | Normal response |  |  |
|  |  |  |  | No common σ | Kruskal-Wallis |
| Data |  | 3 or more independent  groups |  |  |  |
|  |  |  | Not normal |  | Kruskal-Wallis |
|  |  |  |  |  |  |
|  |  |  |  | n large | Test for p using Z |
|  |  |  | Yes/no |  |  |
|  | 1 categorical variable |  |  | n small | binomial |
|  |  |  |  |  |  |
|  |  |  | Many categories |  | Chi-square goodness-of-fit |
|  |  |  |  |  |  |
|  |  |  |  | Independent samples | Chi-square independence test for 2×2 or Fisher’s Exact test |
|  |  |  | 2 levels each |  |  |
| Categorical response | 2 categorical variables |  |  | Dependent samples | McNemar’s test |
|  |  |  |  |  |  |
|  |  |  | Many levels each, independent samples |  | Chi-square independence test for r×k |
|  |  |  |  |  |  |
|  | Quantitative predictor(s) |  |  |  | Logistic regression |