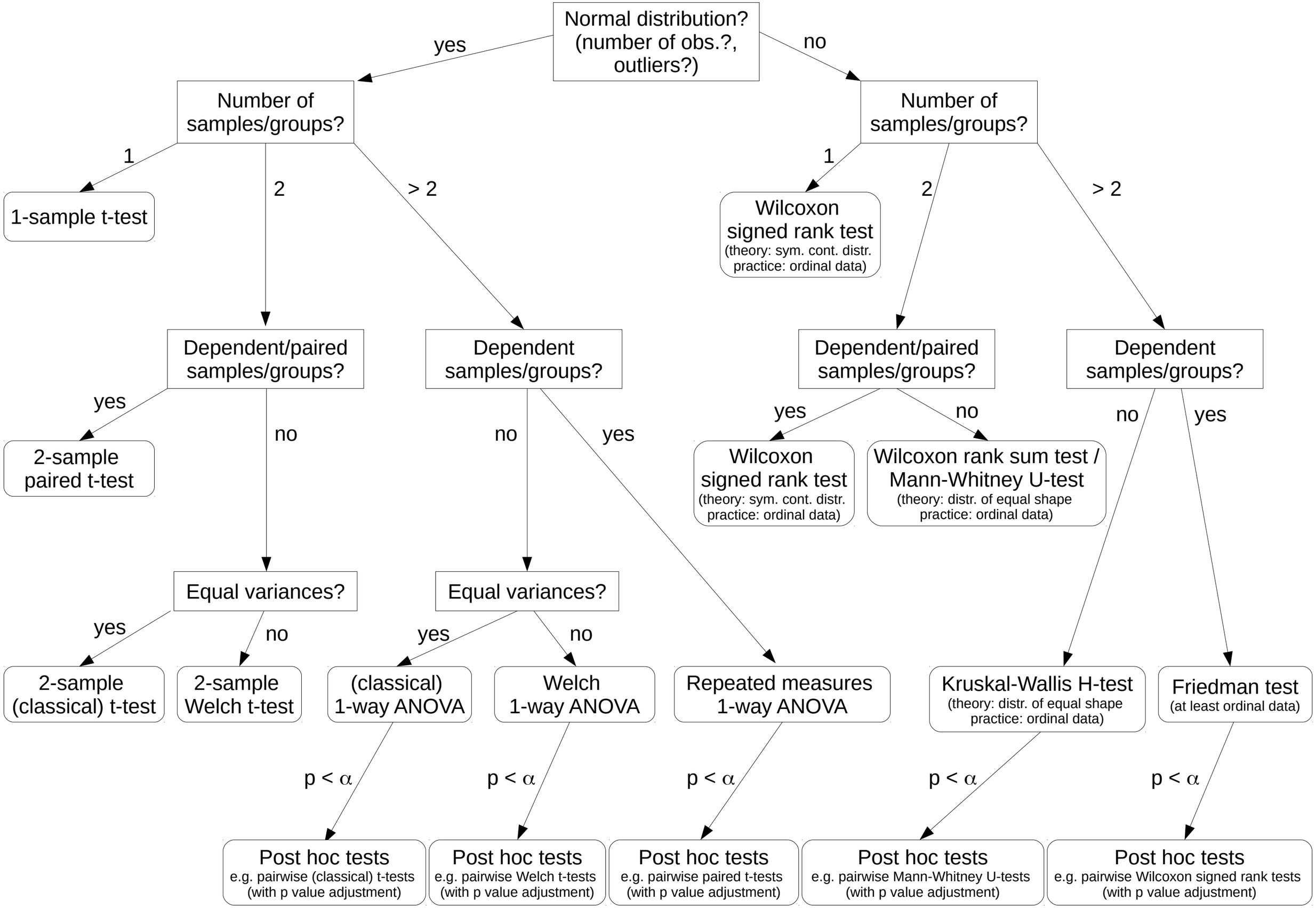
Normal distribution? (number of obs.?, outliers?)
yes
no
Number of samples/groups?
1
2
> 2
1-sample t-test
Dependent/paired samples/groups?
Dependent samples/groups?
yes
no
no
yes
2-sample paired t-test
Equal variances?
Equal variances?
yes
no
yes
no
2-sample (classical) t-test
2-sample Welch t-test
(classical) 1-way ANOVA
Welch 1-way ANOVA
Repeated measures 1-way ANOVA
p < α
p < α
p < α
Post hoc tests
e.g. pairwise (classical) t-tests
(with p value adjustment)
Post hoc tests
e.g. pairwise Welch t-tests
(with p value adjustment)
Post hoc tests
e.g. pairwise paired t-tests
(with p value adjustment)
Number of samples/groups?
1
2
> 2
Wilcoxon signed rank test
(theory: sym. cont. distr.
practice: ordinal data)
Dependent/paired samples/groups?
Dependent samples/groups?
yes
no
no
yes
Wilcoxon signed rank test
(theory: sym. cont. distr.
practice: ordinal data)
Wilcoxon rank sum test / Mann-Whitney U-test
(theory: distr. of equal shape
practice: ordinal data)
Kruskal-Wallis H-test
(theory: distr. of equal shape
practice: ordinal data)
Friedman test
(at least ordinal data)
p < α
p < α
Post hoc tests
e.g. pairwise Mann-Whitney U-tests
(with p value adjustment)
Post hoc tests
e.g. pairwise Wilcoxon signed rank tests
(with p value adjustment)