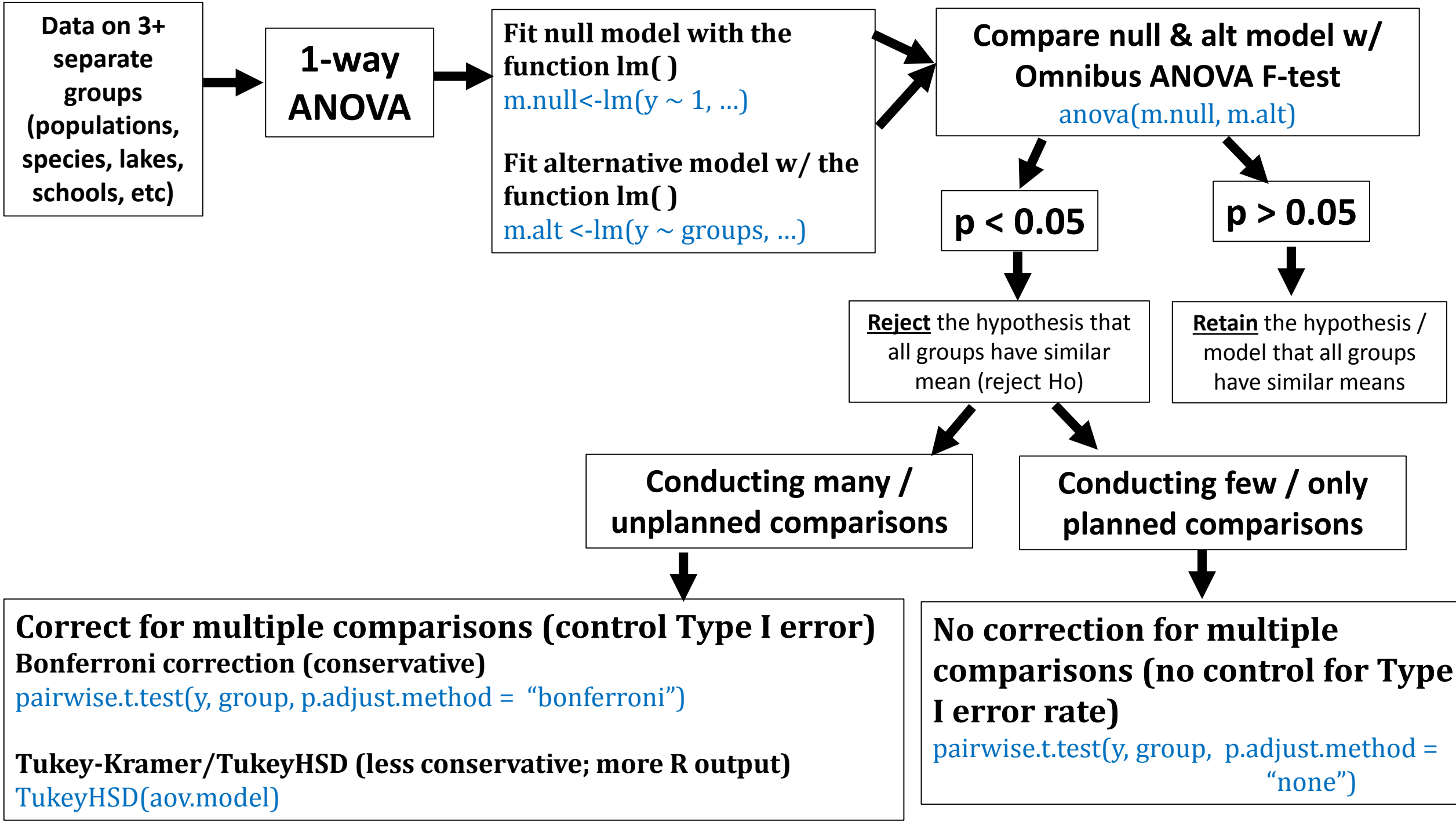
Data on 3+ separate groups (populations, species, lakes, schools, etc)
1-way ANOVA
Fit null model with the function lm( )
m.null<-lm(y ~ 1, ...)
Fit alternative model w/ the function lm( )
m.alt <-lm(y ~ groups, ...)
Compare null & alt model w/ Omnibus ANOVA F-test
anova(m.null, m.alt)
p < 0.05
p > 0.05
Reject the hypothesis that all groups have similar mean (reject Ho)
Retain the hypothesis / model that all groups have similar means
Conducting many / unplanned comparisons
Conducting few / only planned comparisons
Correct for multiple comparisons (control Type I error)
Bonferroni correction (conservative)
pairwise.t.test(y, group, p.adjust.method = "bonferroni")
Tukey-Kramer/TukeyHSD (less conservative; more R output)
TukeyHSD(aov.model)
No correction for multiple comparisons (no control for Type I error rate)
pairwise.t.test(y, group, p.adjust.method = "none")