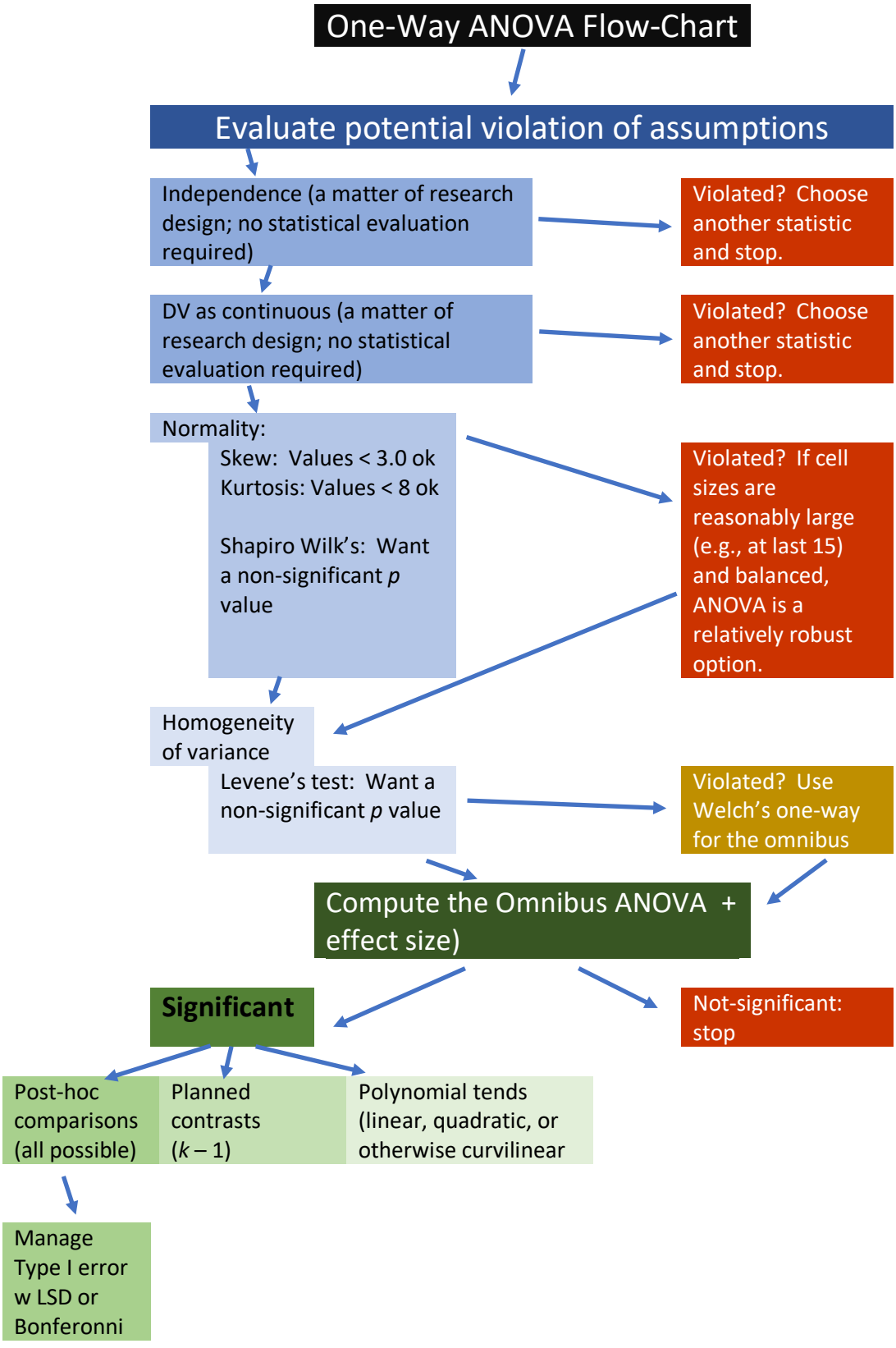
One-Way ANOVA Flow-Chart
Evaluate potential violation of assumptions
Independence (a matter of research design; no statistical evaluation required)
Violated? Choose another statistic and stop.
DV as continuous (a matter of research design; no statistical evaluation required)
Violated? Choose another statistic and stop.
Normality:
Skew: Values < 3.0 ok
Kurtosis: Values < 8 ok
Shapiro Wilk's: Want a non-significant p value
Violated? If cell sizes are reasonably large (e.g., at last 15) and balanced, ANOVA is a relatively robust option.
Homogeneity of variance
Levene's test: Want a non-significant p value
Violated? Use Welch's one-way for the omnibus
Compute the Omnibus ANOVA + effect size)
Significant
Not-significant: stop
Post-hoc comparisons (all possible)
Planned contrasts (k – 1)
Polynomial tends (linear, quadratic, or otherwise curvilinear
Manage Type I error w LSD or Bonferonni