|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | | 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 | | |  | | |  | Violated? If cell sizes are reasonably large (e.g., at last 15) and balanced, ANOVA is a relatively robust option. | |  |
|  |  | | Kurtosis: Values < 8 ok | | |  | | |  |  |
|  |  | | Shapiro Wilk’s: Want a non-significant *p* value | | |  | | |  |  |
|  |  | | |  | |  | | |  | |  |  |
|  | 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 |  | | |  | |  | | |  | |  |  |