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| Terms | Definition |
| SSa, between groups variance, good variance, treatment variance, [a] | The variance that can be attributed to the treatment or manipulation of the IVs |
| SSs/a, within groups variance, bad variance, error variance, [y] | The variance that can be attributed to individual differences, measurement error, etc. |
| MS | Mean square – the average of the variance (i.e. SS / df for that type of variance) |
| Sm, standard error | The error for the experiment (bad variance average per person) |
| Alpha – type 1 | Probability of rejecting null when it is true |
| Beta – type 2 | Probability of failing to reject null when it is not true |
| Omnibus test – anova | Overall F-test, when you run the ANOVA |
| Analytical comparisons | Tests that you run after ANOVA to figure out what happened, breaks down into pairwise and planned |
| Planned comparisons, a priori | When you have planned hypothesis before the experiment. |
| Pairwise, a posteriori | When you want to run all the post hocs. |
| Pairwise – meaning only two means are compared to each other |  |
| Complex comparison | Specifically when several means are averaged to created a pairwise comparison |

What to know about ANOVA charts:

1. Remember in SPSS you will ignore the 1st, 2nd, and 5th lines. You need the group line, error and corrected total.
2. Be sure you understand how an ANOVA chart works: <http://people.richland.edu/james/ictcm/2004/anovagen.php>
   1. Please note that we didn’t do MS total.

What to know about confidence intervals:

1. SE calculations
   1. SE pooled = square root (MSs/a / n(group) – square root of mean square error divided by number of people in that group
      1. Used more when there are equal groups and equal variances assumptions met
   2. SE group – SD / square root (n-group) – mean standard deviation divided by the square root of n for that group
      1. Used more when you want to calculate CI for just that group, ignoring when you had other groups
2. CI calculations
   1. We discussed using t critical values at alpha = .05 for degrees of freedom (n-group minus 1).
      1. This way would be for CI for just that group ignoring that other groups exist.
   2. SPSS calculates t critical at alpha = .05 for degrees of freedom for all groups (i.e. dfs/a or (n-1 + n-1 + n-1 … for all groups).
      1. This calculation is more common for considering means as a part of a whole experiment.
   3. Both are correct ways of calculating CI. After some research, it appears that the SPSS way is more common.