

## How to do a One-Way Between-Subjects ANOVA with Post Hoc (Unplanned) Comparisons on SPSS

1. Open SPSS
2. Click **Variable View**
3. In the first box of the first row, type the independent variable name—it must be 8 characters or less with no spaces
  - a. If you want a more detailed name enter this in the **label** box.
  - b. Click on little gray box next to “None” under **Values**.
  - c. A new screen should appear.
  - d. Enter the Level number (for level of IV) in the **Value** box.
  - e. Enter the Level name (for level of IV) in the **Value Labels** box.
  - f. Click **add**.
  - g. Repeat steps d-f for each level of the IV, then click OK
4. In the first box of the second row, type the dependent variable name—it must be 8 characters or less with no spaces
  - a. If you want a more detailed name enter this in the **label** box.
5. Go to File, select Save As to save your data—enter the name you want to call the data file and click on Save. Make sure you are saving to Desktop.
6. Click **Data View**—your variable name should now be at the top of the first column.
7. Enter Data. For each score in the data set, you enter two pieces of information:
  - a. In the first column, you enter the level of the IV the data belongs to.
  - b. In the second column, you enter the actual data score.
8. Go to **File**, select **Save** to save your data.
9. Click on **Analyze**, then click on **Compare Means**, then click on **One-Way ANOVA**.
10. Move your independent variable name to the box on the right side labeled “**Factor**” by making sure that your independent variable is highlighted, then clicking the right arrow (→) next to the Factor box.
11. Move your dependent variable name to the box on the right side labeled “**Dependent List**” by making sure that your dependent variable is highlighted, then clicking the right arrow (→) next to the Dependent List box.
12. Click on **Post hoc** (to do post hoc pairwise comparisons).
  - a. Select either Scheffe, Tukey, or Dunnett, depending on which type you want to conduct.
  - b. If you choose Dunnett, you also need to choose your control group. SPSS allows you to choose either the first group or the last group.
  - c. Click Continue when done.
13. Click **Options**
  - a. Make sure there is a check mark next to Descriptive, Homogeneity of Variance, and Means plot, then click Continue.
14. Click OK. Your results should appear on the screen.
15. Choose File, then Print to save your results as a pdf file.
16. Don't forget to save the output! Follow procedure from step 5.

## How to do a Two-Way Between-Subjects ANOVA on SPSS

1. Open SPSS
2. Click **Variable View**
3. In the first box of the **first row**, type the first independent variable name—it must be 8 characters or less with no spaces
  - a. If you want a more detailed name enter this in the label box.
  - b. Click on little gray box next to “None” under Values.
  - c. A new screen should appear.
  - d. Enter the Level number (for level of IV) in the Value box.
  - e. Enter the Level name (for level of IV) in the Value Labels box.
  - f. Click add.
  - g. Repeat steps d-f for each level of the IV, then click OK
4. In the first box of the **second row**, type the second independent variable name—it must be 8 characters or less with no spaces
  - a. If you want a more detailed name enter this in the label box.
  - b. Click on little gray box next to “None” under Values.
  - c. A new screen should appear.
  - d. Enter the Level number (for level of IV) in the Value box.
  - e. Enter the Level name (for level of IV) in the Value Labels box.
  - f. Click add.
  - g. Repeat steps d-f for each level of the IV, then click OK
5. In the first box of the **third row**, type the dependent variable name—it must be 8 characters or less with no spaces
  - a. If you want a more detailed name enter this in the label box.
6. Go to **File**, select **Save As** to save your data—enter the name you want to call the data file and click on Save. Make sure you are saving to Desktop.
7. Click **Data View**—your variable name should now be at the top of the first column.
8. Enter Data. For each score in the data set, you enter two pieces of information:
  - a. In the **first column**, you enter the level of the first IV the data belongs to.
  - b. In the **second column**, you enter the level of the second IV the data belongs to.
  - b. In the **third column**, you enter the actual data score.
9. Go to **File**, select **Save** to save your data.
10. Click on **Analyze**, then click on **General Linear Model**, then click on **Univariate**.
11. Move your two **independent variable** names to the box on the right side labeled “**Fixed Factors**” by making sure that your independent variable is highlighted, then clicking the right arrow (→) next to the Fixed Factor box.
12. Move your **dependent variable** name to the box on the right side labeled “**Dependent Variable**” by making sure that your dependent variable is highlighted, then clicking the right arrow (→) next to the Dependent Variable box.
13. Click **Options**
  - a. Under **Factor and Factor Interactions**, highlight your two factors and the interaction, then click the right arrow (→) to move them to the **Display Means** box.
  - b. Make sure there is a check mark next to **Descriptive, Homogeneity Tests, Estimates of Effect Size**, and **Observed Power**, then click **Continue**.
14. Click **Plots**
  - a. Move one IV to the **Horizontal Axis** box and the other IV to the **Separate Lines** box.
  - b. Click **Add** and then click **Continue**.
15. Click **OK**. Your results should appear on the screen.
16. Choose **File**, then **Print** to print your results.
17. Don't forget to save the output! Follow procedure from step 5.