

Instructions for carrying out statistical procedures and tests using SPSS

These instructions are closely linked to the author's book:

Essential Statistics for the Pharmaceutical Sciences
John Wiley & Sons Ltd <http://eu.wiley.com>
2007
ISBN: 978-0-470-03468-2

For all references to chapters or tables, see the above book.

**Using SPSS to add a Dunnett's test to a
one-way analysis of variance**

Using SPSS to add a Dunnett's test to a one-way analysis of variance

Example: Table 13.1 Effect of catalyst on yield (Percentage of theoretical maximum)

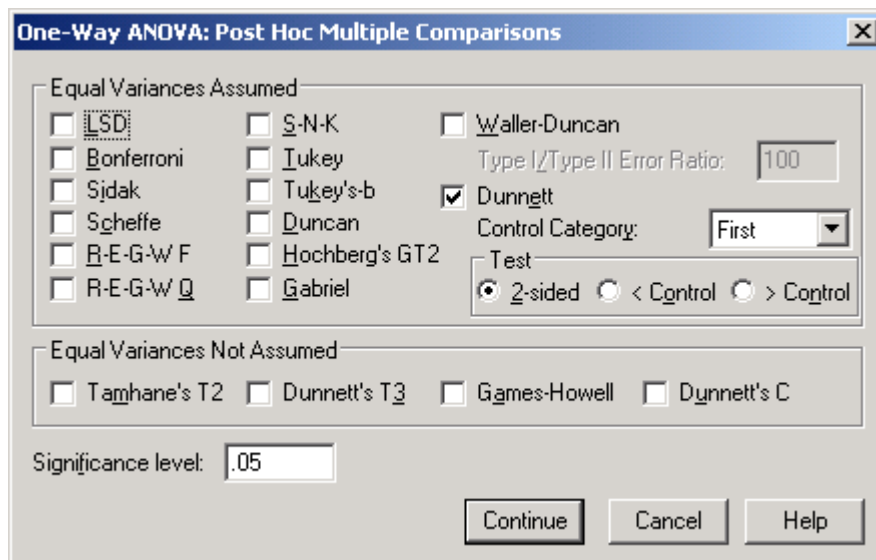
For the general theory of Dunnett's test, see Chapter 13.

Set up the Data Editor (Including Value labels) and enter the data exactly as described for a [one-way analysis of variance](#).

Follow the menus *Analyze / Compare Means / One-Way ANOVA ...*

Move 'Yield' into the 'Dependent List' box and 'Catalyst' into the 'Factor' box.

Click on the 'Post Hoc...' button and check for 'Dunnett'. In the box labelled 'Control Category' select 'First' (We want to compare other catalysts against platinum that has been coded as '1'). Box should now appear as below:



Click 'Continue' and 'OK'.

The Output will be as for the One-way ANOVA, but with the following additional material (Next page):

Multiple Comparisons

Dependent Variable: Yield
Dunnnett t (2-sided)

(I) Catalyst	(J) Catalyst	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Pd	Pt	6.6800(*)	.6212	.000	5.033	8.327
Ir	Pt	1.1800	.6212	.209	-.467	2.827
Pd/Ir	Pt	2.9600(*)	.6212	.000	1.313	4.607
Rh	Pt	.4400	.6212	.887	-1.207	2.087

* The mean difference is significant at the .05 level.

a. Dunnnett t-tests treat one group as a control, and compare all other groups against it.

Confidence limits for the differences between platinum and each other catalyst are given in the final two columns. Palladium and Palladium/Iridium show significant differences from platinum as both these confidence intervals exclude a zero difference. This is confirmed by the P values in the previous column (Headed 'Sig.'). The others (Iridium and rhodium) do not differ significantly from platinum.

See Chapter 13 for full interpretation of the results.