

Tonight we will illustrate how to

1. calculate effect size
2. contrast:
 - a. main and
 - b. simple effects

1. Calculate the effect size (Partial Eta) calculation

The image shows the SPSS Univariate dialog box and its options. In the Univariate dialog, the dependent variable is 'error' and the fixed factors are 'drug' and 'deprivation'. In the Univariate: Options dialog, the 'Estimated Marginal Means' section shows 'Factor(s) and Factor Interactions' with 'OVERALL' selected. The 'Display' section has 'Estimates of effect size' checked. A callout box points to the 'Estimates of effect size' checkbox with the text 'Make sure to click on it'.

Univariate: Options

Estimated Marginal Means

Factor(s) and Factor Interactions:

OVERALL

Display Means for:

drug

deprivation

drug*deprivation

Display

☐ Descriptive statistics

☐ Homogeneity tests

☒ Estimates of effect size

☐ Spread vs. level plot

☐ Observed power

☐ Residual plot

☐ Parameter estimates

☐ Lack of fit

☐ Contrast coefficient matrix

☐ General estimable function

Significance level: .05 Confidence intervals are 95.0%

Continue Cancel Help

Make sure to click on it

2. Contrast

a. Main effect contrasts

The image shows the SPSS Univariate: Contrasts dialog box. The 'Factors' list contains 'drug(None)' and 'deprivation(None)'. The 'Change Contrast' dropdown menu is open, showing options: None, Deviation, Simple, Difference, Helmert, Repeated, and Polynomial. The 'Helmert' option is selected. A callout box points to the 'Change' button with the text 'Make sure to click "change"'.

Univariate: Contrasts

Factors:

drug(None)

deprivation(None)

Change Contrast

Contrast: None

Reference

☐ First

☐ Last

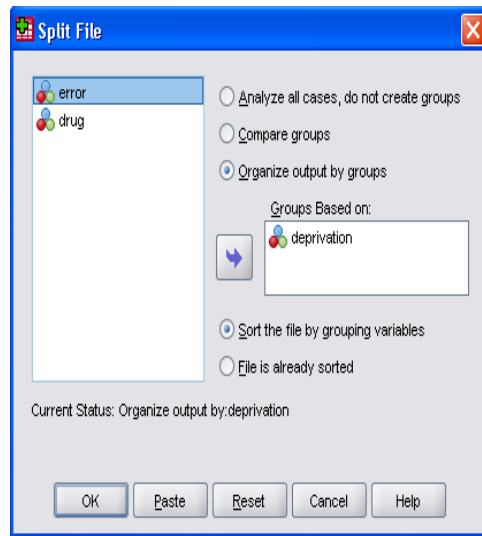
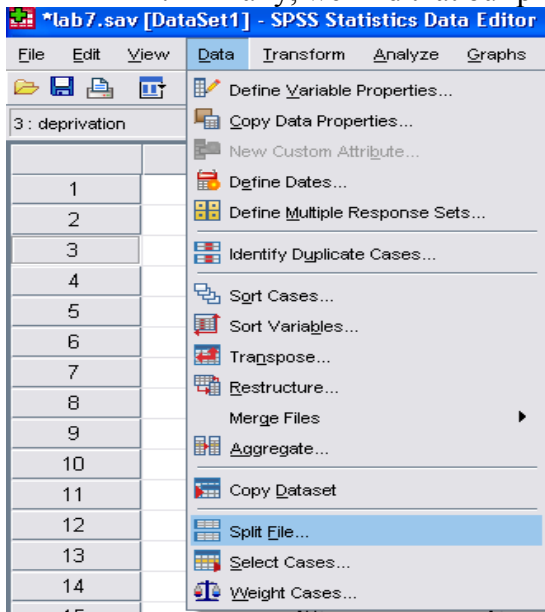
Help

Make sure to click "change"

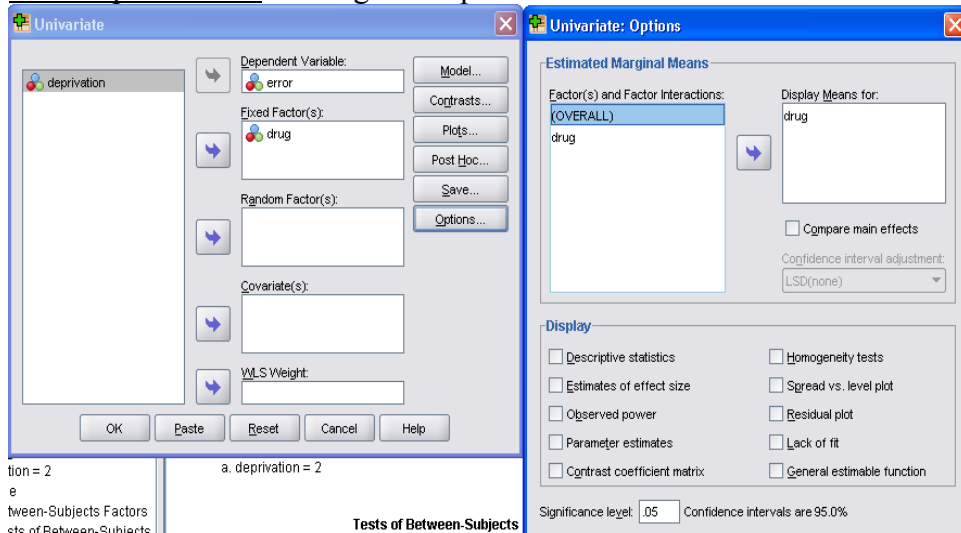
b. Simple effect contrasts:

The simple effects of Drug for Deprivation 1 and 2

- Run the overall factorial ANOVA and write down the MS_{Error} that you get.
- Split File
Data → Split File → Organize Output by Groups (Deprivation) → OK
- Run one-way ANOVA for each Deprivation level
Analyze → Compare Means → One-Way ANOVA
- Note that we are ONLY interested in the SS and MS for the effect (again, the error term in this analysis is the wrong one).
- We divide this MS (124 with $df=1$) by the MS_{Error} (18.333 with $df=18$) from the overall factorial ANOVA.
- Finally, we find that our p-value in MS Excel, using the function “FDIST”



The simple contrast of Drug for Deprivation 1 and 2



(Exercise) simple contrast: the effect of two drugs on error [0,-1,1]

$F = \underline{\hspace{2cm}}$ with $df = \underline{\hspace{1cm}}$ and $\underline{\hspace{1cm}}$, $p = \underline{\hspace{2cm}}$