

PUBLICATION BIAS

For all of the following techniques the relevant data (effects size and standard error (SE)) is copied from the CAMARADES database for all comparisons under investigation (e.g. using the Check Raw Data button in the WMD Analysis window).

Funnel plotting

A funnel plot graphs the effect size vs. precision (1/SE) for all relevant comparisons in a dataset.

1. Copy data into a new data worksheet in SigmaPlot.
2. Press the **Graph Wizard** button or select **Create Graph** from the **Graph** menu.
3. Select: Scatter plot
 - Simple Scatter
 - XY Pair
 - X = effect size
 - Y = precision
4. Place a vertical line at X = global estimate by opening the **Graph Properties** window and selecting **Reference** from the **Plots** tab. In the **Show/edit** field select one of the options then select **Constant** in the **Calc** field and enter the global estimate after the = sign. **Direction** = Y (vertical), click **Apply** and **OK**.

Egger regression

For Egger regression plot the effect size/SE vs. precision (1/SE) for all relevant comparisons in a dataset.

1. Copy data into a new data worksheet in SigmaPlot.
2. Press the **Graph Wizard** button or select **Create Graph** from the **Graph** menu.
3. Select: Scatter plot
 - Simple Scatter
 - XY Pair
 - X = precision
 - Y = effect size/SE
4. Using the **Draw Line** tool (**Tools** menu) place lines the length of the axes at X = 0 and Y = 0 to show the origin (you can use the **Reference** option in the **Plots** tab in the **Graph Properties** window for one of the lines).
5. Under the **Graph** menu select **Linear Regression**. In the **Regression Line** tab select **Regressions** > All data in plot and **Options** > Extend to axes. In the **Confidence Intervals** tab select **Method** > 95% and **Confidence** > Confidence intervals. Click Apply and OK.

Trim and fill

Trim and fill estimates the number and outcomes of missing studies and adjusts the meta-analysis to incorporate the theoretical missing studies.

TRAINING MATERIALS

Trim and fill is carried out using the `metatrim` command in STATA:

1. Create a `.csv` file that has the effect sizes for your included studies in one column and the corresponding standard errors in the next column.
2. Using the **insheet** command, import the data into STATA e.g:
 - `clear`
 - `insheet using "C:\Documents and Settings\v1smccan\Desktop\Antidepressants in stroke\antidepressants_stata\Trim and fill antidepressant neurobehaviour_for STATA_30-04-14.csv"`
3. Use the **metatrim** command followed by the effect size and standard error of your imported data (effect size and `se` commands must match the labels given to the relevant imported columns) and the **save** command e.g:
 - `metatrim effectsize se, save(filename)`

STATA will calculate a pooled estimate of efficacy (and 95% CIs) based on your data using a fixed and random model under the heading 'Meta-analysis'.

The new estimate of efficacy (and 95% CIs), calculated using the published and filled data is under the heading 'Filled Meta-analysis'.

The published and filled outcome effect sizes and standard errors will be saved in a separate **.dta** (STATA) file.

4. Open the saved `.dta` file and click on the **Data Browser** button (or **Data menu** > Data Browser). The id for the published studies will be **study 1, 2...** and the filled studies will be **fill 1, 2...**. The effect sizes will be in the column labelled **filled** and their `se` in the **filledse** column. Copy and paste the values into an Excel file, calculate the precision for each effect and separate the study and fill data into separate columns.
5. To graph trim and fill data in SigmaPlot, plot the effect size vs. precision (1/SE) for both the published and filled data on the same plot:
 - a. Copy data into a new data worksheet in SigmaPlot.
 - b. Press the **Graph Wizard** button or select **Create Graph** from the **Graph** menu.
 - c. Select: Scatter plot
Multiple Scatter
XY Pairs
X1 = published effect size
Y1 = published precision
X2 = filled effect size
Y2 = filled precision
6. Place vertical lines at X = global estimate (published) and X = global estimate (adjusted) by opening the **Graph Properties** window and selecting **Reference** from the **Plots** tab. In the **Show/edit** field select one of the options then select **Constant** in the **Calc** field and enter the global estimate after the = sign. **Direction** = Y (vertical), click **Apply** and **OK**. Repeat, selecting a different option in the **Show/edit** field so that you have two vertical lines. Make the adjusted estimate line red.
7. Click on the data points (**Graph Properties** window > **Plots** tab > **Settings for:** Symbols) and using the **Fill color** and **Edge** options make the filled data points red (Color = Incrementing for SigmaPlot Version 11.0).