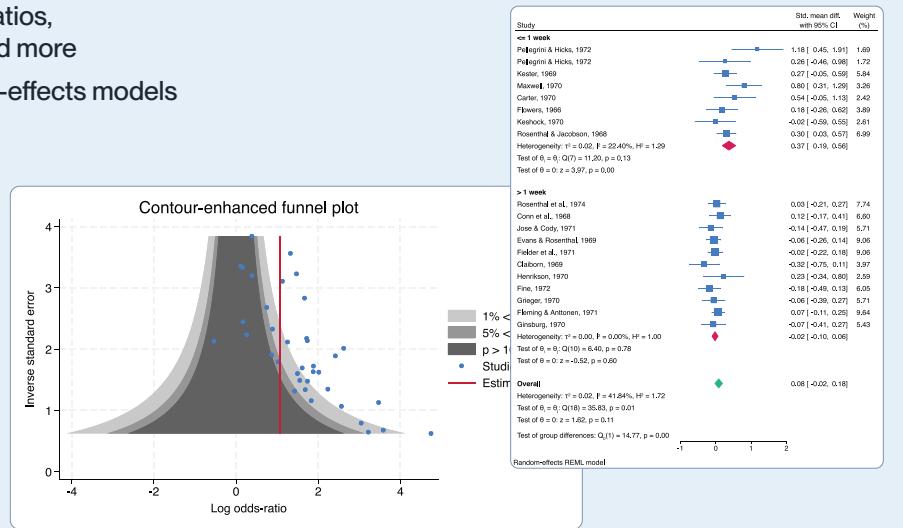


Meta-analysis

Stata's suite of commands for meta-analysis is broad yet easy to use.

- Effect sizes: Hedges's g , Cohen's d , odds ratios, risk ratios, proportions, correlations **New**, and more
- Common-effect, fixed-effects, and random-effects models
- Forest, funnel, Galbraith, and more plots
- Subgroup analysis
- Meta-regression
- Tests of small-study effects
- Trim-and-fill analysis of publication bias
- Cumulative meta-analysis
- Leave-one-out meta-analysis
- Multivariate meta-analysis
- Multilevel meta-analysis
- More



Prepare your data

Continuous summary data

Compute Hedges's g effect sizes (default)

```
. meta esize n1 m1 sd1 n2 m2 sd2
```

Compute Cohen's d effect sizes

```
. meta esize n1 m1 sd1 n2 m2 sd2, esize(cohend)
```

Binary summary data

Compute log odds-ratios (default)

```
. meta esize n11 n12 n21 n22
```

Compute log risk-ratios

```
. meta esize n11 n12 n21 n22, esize(lnrratio)
```

Generic effect sizes

Specify precomputed effect sizes and their standard errors (and label effect sizes)

```
. meta set es se, eslabel(Log hazard-ratio)
```

Or specify effect sizes and their confidence intervals (and label studies)

```
. meta set cil ciu, studylabel(studylbl)
```

Summarize meta-analysis data

Compute basic summaries and display in a table

```
. meta summarize
```

Or produce a forest plot

```
. meta forestplot
```

Explore heterogeneity

Perform subgroup analysis for levels of **group**

```
. meta forestplot, subgroup(group)
```

Perform meta-regression and also account for continuous **x**

```
. meta regress i.group x
```

Produce a Galbraith plot

```
. meta galbraithplot
```

Cumulative and leave-one-out meta-analysis

Perform cumulative meta-analysis in the order of **year**

```
. meta forestplot, cumulative(year)
```

Perform leave-one-out meta-analysis

```
. meta forestplot, leaveoneout
```

Explore small-study effects

Produce a funnel plot

```
. meta funnelplot
```

Produce a funnel plot by **group**

```
. meta funnelplot, by(group)
```

Perform Egger test for funnel-plot asymmetry

```
. meta bias, egger
```

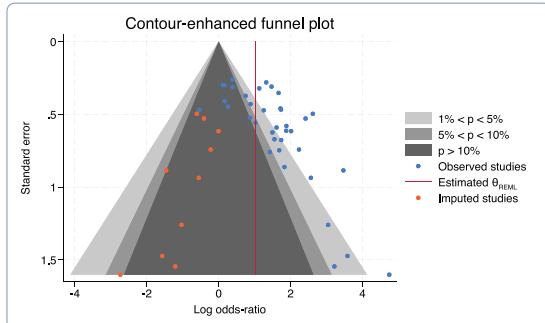
Adjust for heterogeneity due to **group** during testing

```
. meta bias i.group, egger
```

Assess publication bias

Assess publication bias using the trim-and-fill method; produce contour-enhanced funnel plot including omitted studies

```
. meta trimfill, funnel(contours(1 5 10))
```



Perform multivariate and multilevel meta-analysis

Multivariate meta-regression

```
. meta mvregress y1 y2 = x1 i.x2,  
    wcovvariables(v11 v12 v22)
```

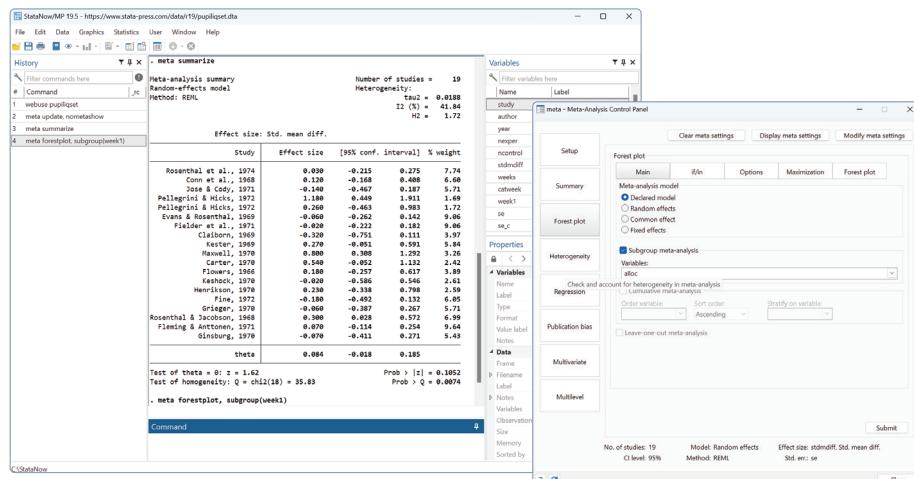
Assess multivariate heterogeneity or multilevel heterogeneity

```
. estat heterogeneity
```

Multilevel meta-regression

```
. meta mregress y x1 i.x2 || level3var: x1 ||  
    level2var:, essevariable(se)
```

Use commands or GUI



Study	Effect size	[95% conf. interval]	% weight	theta
Rosenthal et al., 1974	0.039	-0.215 0.275	7.74	0.084
Conn et al., 1968	0.120	-0.165 0.408	6.68	
Joss & Cody, 1971	-0.140	-0.467 0.187	5.71	
Pellegrini & Hicks, 1972	1.120	0.669 1.573	4.60	
Pellegrini & Hicks, 1972	0.260	-0.463 0.983	1.72	
Evans & Rosenthal, 1969	-0.060	-0.263 0.142	9.06	
Fiedler, 1969	-0.250	-0.523 0.123	4.96	
Claborn, 1969	-0.320	-0.751 0.111	3.97	
Hawley, 1969	0.279	-0.091 0.651	5.84	
Hawley, 1969	0.200	-0.008 1.222	5.84	
Carter, 1970	0.540	-0.052 1.132	2.42	
Fisher, 1968	0.180	-0.149 0.549	2.07	
Kashner, 1970	-0.620	-0.586 0.546	2.61	
Henrikson, 1970	0.230	-0.334 0.798	2.59	
Griffith, 1972	-0.130	-0.487 0.527	2.05	
Griegor, 1970	-0.060	-0.387 0.367	5.71	
Rosenthal & Jacobson, 1968	0.380	0.028 0.752	6.99	
Fleming & Jones, 1972	0.270	0.019 0.554	9.44	
Sinhaburg, 1970	-0.070	-0.411 0.371	5.48	
	theta	0.084 -0.018 0.185		