

Meta-Analysis

Random-Effects Model (k = 24)

	Estimate	se	Z	p	CI Lower Bound	CI Upper Bound
Intercept	-1.35	0.31	-4.31	< .001	-1.96	-0.73

Nota. Tau² Estimator: Restricted Maximum-Likelihood

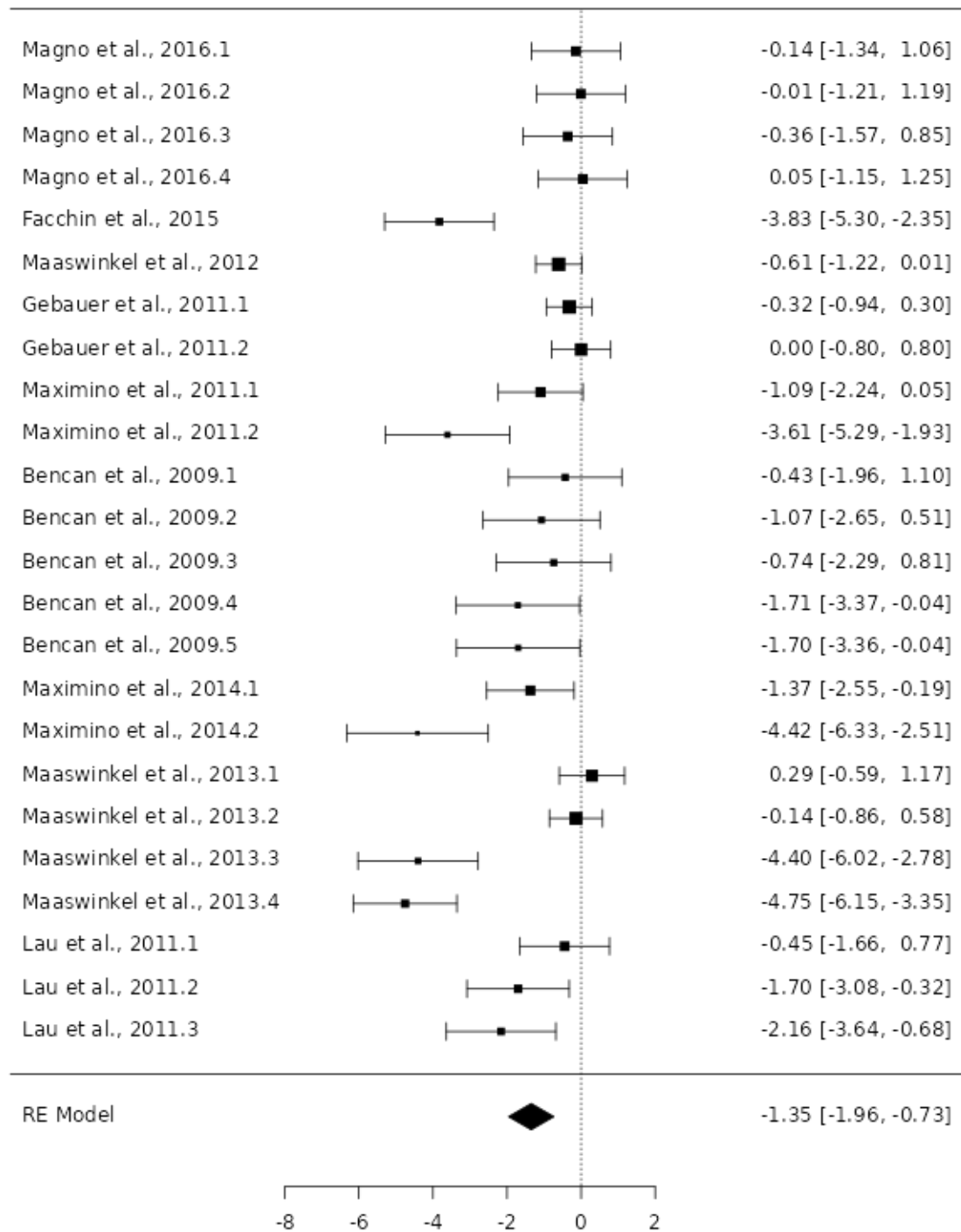
Heterogeneity Statistics

Tau	Tau²	I²	H²	R²	df	Q	p
1.38	1.9019 (SE= 0.6886)	85.46%	6.88	.	23.00	119.95	< .001

The analysis was carried out using the standardized mean difference as the outcome measure. A random-effects model was fitted to the data. The amount of heterogeneity (i.e., tau²), was estimated using the restricted maximum-likelihood estimator (Viechtbauer 2005). In addition to the estimate of tau², the Q-test for heterogeneity (Cochran 1954) and the I² statistic are reported. In case any amount of heterogeneity is detected (i.e., tau² > 0, regardless of the results of the Q-test), a prediction interval for the true outcomes is also provided. Studentized residuals and Cook's distances are used to examine whether studies may be outliers and/or influential in the context of the model. Studies with a studentized residual larger than the 100 x (1 - 0.05/(2 X k))th percentile of a standard normal distribution are considered potential outliers (i.e., using a Bonferroni correction with two-sided alpha = 0.05 for k studies included in the meta-analysis). Studies with a Cook's distance larger than the median plus six times the interquartile range of the Cook's distances are considered to be influential. The rank correlation test and the regression test, using the standard error of the observed outcomes as predictor, are used to check for funnel plot asymmetry.

A total of k=24 studies were included in the analysis. The observed standardized mean differences ranged from -4.7523 to 0.2929, with the majority of estimates being negative (88%). The estimated average standardized mean difference based on the random-effects model was $\hat{\mu} = -1.3470$ (95% CI: -1.9596 to -0.7344). Therefore, the average outcome differed significantly from zero (z = -4.3098, p < 0.0001). According to the Q-test, the true outcomes appear to be heterogeneous (Q(23) = 119.9539, p < 0.0001, tau² = 1.9019, I² = 85.4632%). A 95% prediction interval for the true outcomes is given by -4.1185 to 1.4245. Hence, although the average outcome is estimated to be negative, in some studies the true outcome may in fact be positive. An examination of the studentized residuals revealed that none of the studies had a value larger than ± 3.0781 and hence there was no indication of outliers in the context of this model. According to the Cook's distances, none of the studies could be considered to be overly influential. Both the rank correlation and the regression test indicated potential funnel plot asymmetry (p < 0.0001 and p < 0.0001, respectively).

Forest Plot

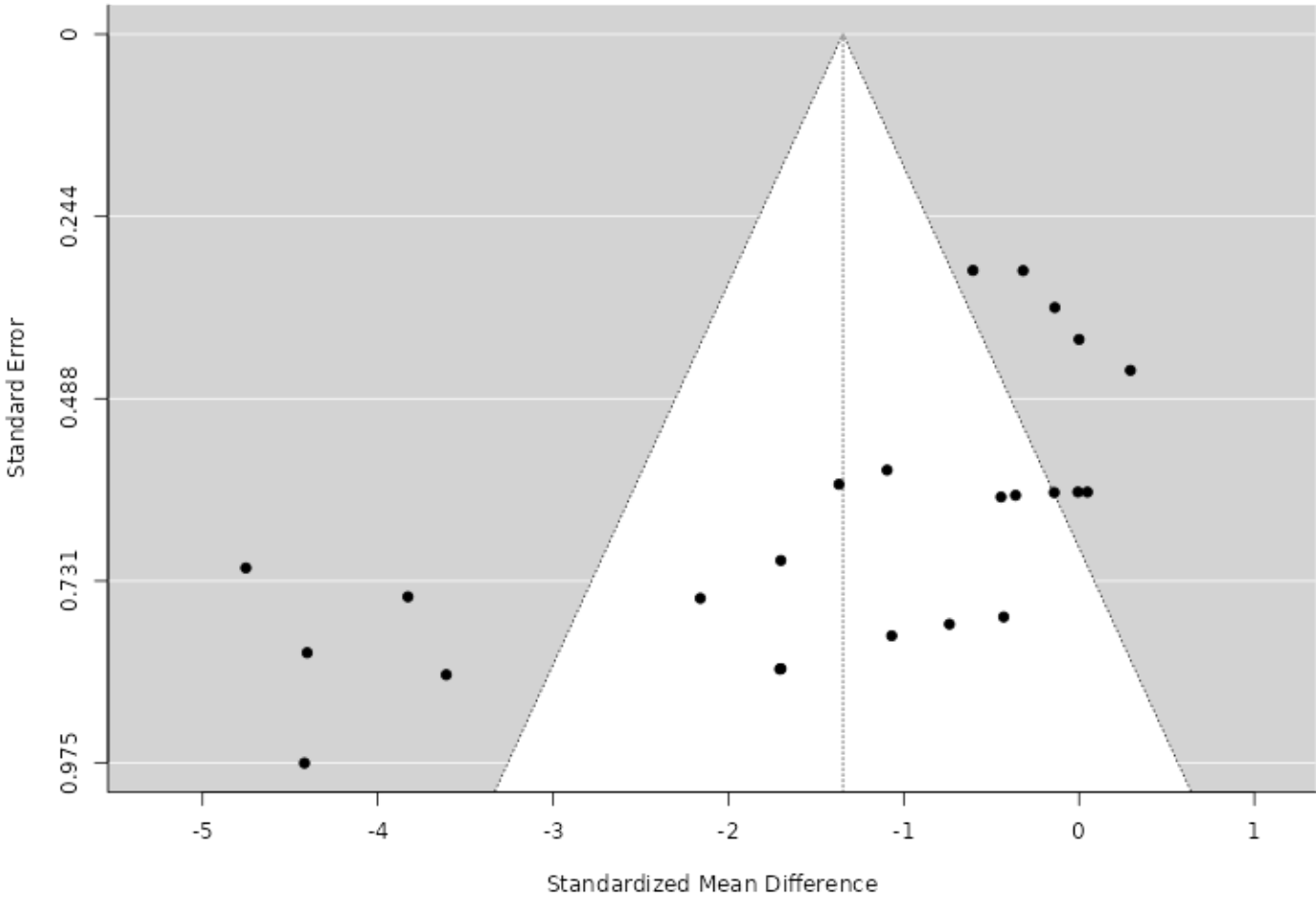


Publication Bias Assessment

Test Name	value	p
Fail-Safe N	765.00	< .001
Begg and Mazumdar Rank Correlation	-0.55	< .001
Egger's Regression	-4.00	< .001
Trim and Fill Number of Studies	0.00	.

Nota. Fail-safe N Calculation Using the Rosenthal Approach

Funnel Plot



Test of Excess Significance | Significant Findings

Observed Number of Significant Findings	16
Expected Number of Significant Findings	24
Observed Number / Expected Number	0.79

Test of Excess Significance | Estimated Power of Tests

Min	Q1	Median	Q3	Max
0.78	0.81	0.84	0.86	0.92

Nota. Estimated Power of Tests (based on theta = -1.347)

Test of Excess Significance: $p = 0.9919$ ($X^2 = 5.7895$, $df = 1$). Limit Estimate: NA (where $p = 0.1$)