transparency-meta

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## 0.1 input

Based on the reviewer asking: The analysis should be separated into two separate analyses: one of the behavioural outcomes and one of the non-behavioural reactions. The analysis of the behavioural outcomes would not need to consider negative outcomes, since 54 out of 55 effect sizes have been identified as normatively positive. The analysis of the non-behavioural reactions (62) would continue to distinguish between positive (40), negative (17), and “ambiguous” reactions (5). I believe that this separation is indispensable to avoid the conflation of theoretically very distinct concepts and allow for a separate discussion of transparency on behavioural outcomes and, more importantely and currently lacking: non-behavioural reactions that can be extremely informative for evaluating how transparent nudges may reinforce perceived agency.

Let’s split the df into 3 : the effects supposedly increased by the transparency, the effects reduced and the effects of changes.

# 1. Meta-analytics results

Multivariate Meta-Analysis Model (k = 55; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0439 0.2096 22 no reference   
sigma^2.2 0.0224 0.1498 51 no reference/study\_id   
  
Test for Heterogeneity:  
Q(df = 54) = 208.7657, p-val < .0001  
  
Model Results:  
  
estimate se tval df pval ci.lb ci.ub   
 0.1169 0.0552 2.1190 54 0.0387 0.0063 0.2275 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

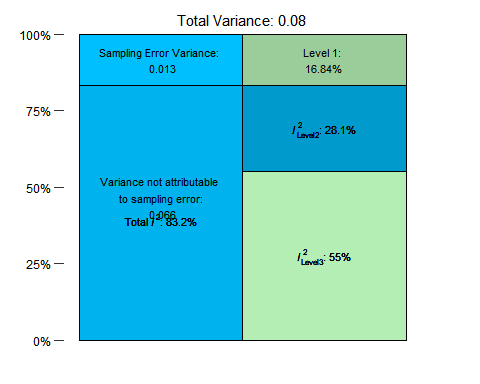
Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0081 0.0899 9 no reference   
sigma^2.2 0.0070 0.0839 22 no reference/study\_id   
  
Test for Heterogeneity:  
Q(df = 39) = 81.9619, p-val < .0001  
  
Model Results:  
  
estimate se tval df pval ci.lb ci.ub   
 0.0405 0.0428 0.9465 39 0.3497 -0.0460 0.1270   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se tval df pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 16 0.0981 -0.0095 0.1016 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 5; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 2 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 4) = 6.0228, p-val = 0.1974  
  
Model Results:  
  
estimate se tval df pval ci.lb ci.ub   
 0.0717 0.0420 1.7073 4 0.1630 -0.0449 0.1884   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## 1.1 Shared variance per level for behavioral effect

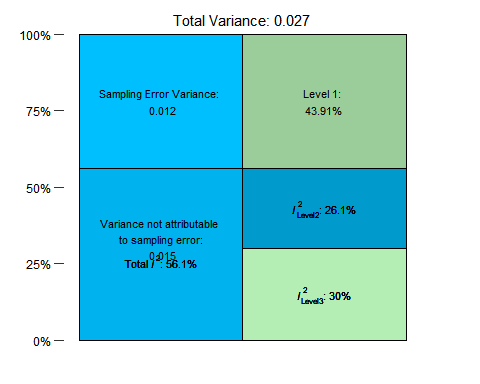
% of total variance I2  
Level 1 16.8 ---  
Level 2 28.1 28.11  
Level 3 55.0 55.05  
Total I2: 83.2%



Overall, this indicates that there is substantial between-study heterogeneity on the third level ( 55.05%). Yet, we also see that a large proportion of the total variance (28.11%) can be explained by differences within studies.

## 1.2 Shared variance per level for positive effect

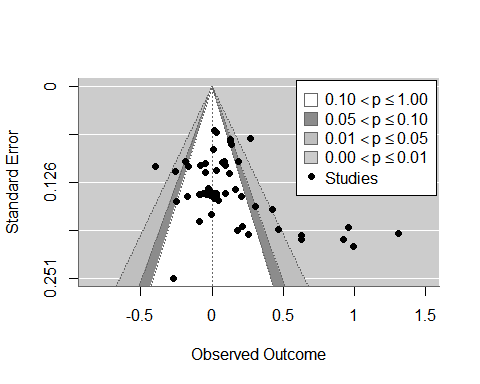
% of total variance I2  
Level 1 43.9 ---  
Level 2 26.1 26.09  
Level 3 30.0 30  
Total I2: 56.1%



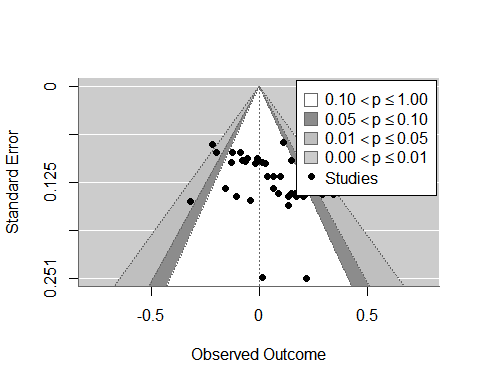
Overall, this indicates that there is substantial between-study heterogeneity on the third level ( 30%). Yet, we also see that a large proportion of the total variance (26.09%) can be explained by differences within studies.

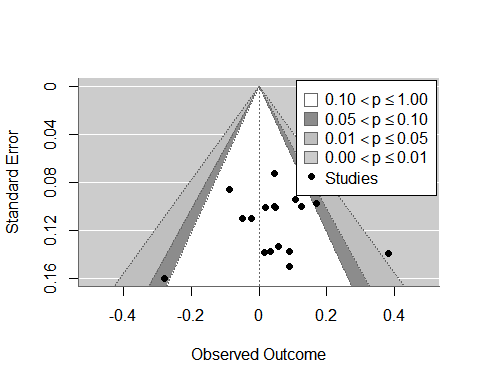
# 2. Publication bias

## 2.1 funnel behav



## 2.2 funnel plus and funnel minus





# 3. funnel plots

This funnel is more advanced, with the egger test (red line) to be shown.

png   
 2

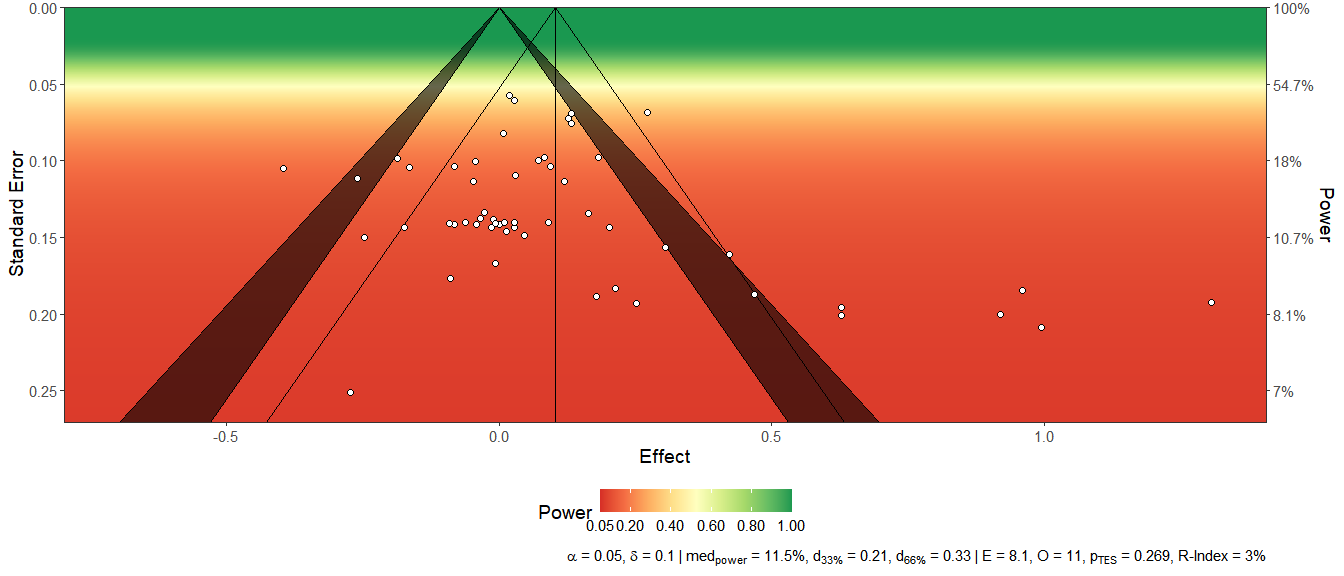
png   
 2

### 3.0.1 power analysis

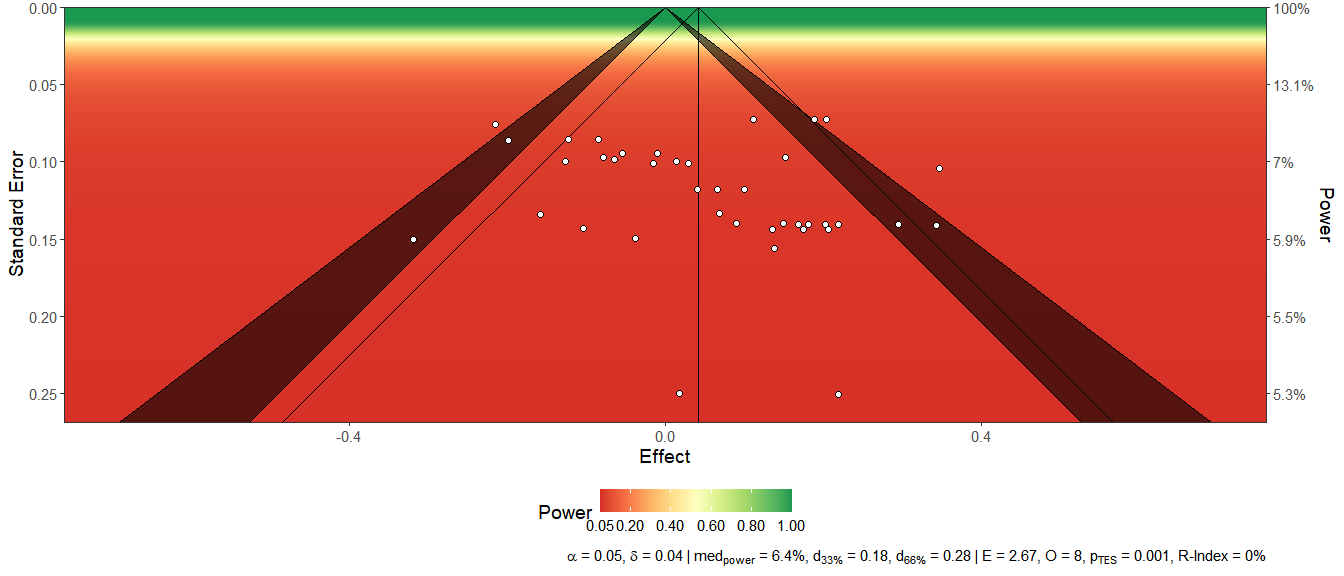
Finally, this funnel is about the power in studies. The greener, the more power. Here the median post-hoc power is less than 11% with a reproducibility index of 0% More here: IoannstudyIDis, J. P., & Trikalinos, T. A. (2007). An exploratory test for an excess of significant findings. Clinical Trials, 4, 245-253.

Schimmack, U. (2016). The replicability-index: [Quantifying statistical research integrity](https://replicationindex.wordpress.com/2016/01/31/a-revised-introduction-to-the-r-index/)

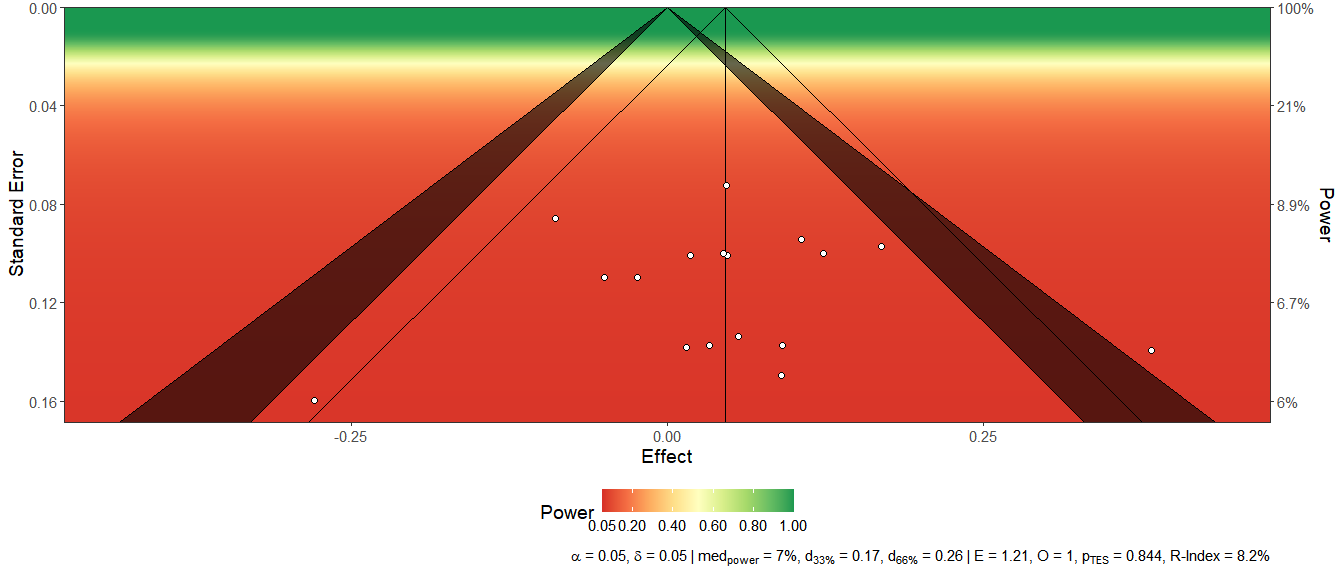
for behavioral effects



positive effects



and negative effects



### 3.0.2 Trim and Fill

This is a test of funnel plot symmetry by the use of deleting and adding studies to improve the symmetry. See: Duval, S. J. (2005). The trim and fill method. In H. R. Rothstein, A. J. Sutton, & M. Borenstein (Eds.) Publication bias in meta-analysis: Prevention, assessment, and adjustments (pp. 127–144). Chichester, England: Wiley.

Trim and fill is a very old and popular technique, but performs poorly compared to 3PSM or PET-PEESE. See Carter EC, Schönbrodt FD, Gervais WM, Hilgard J. Correcting for Bias in Psychology: A Comparison of Meta-Analytic Methods. Advances in Methods and Practices in Psychological Science. 2019;2(2):115-144. doi:[10.1177/2515245919847196](https://journals.sagepub.com/doi/10.1177/2515245919847196)

Estimated number of missing studies on the left side: 0 (SE = 3.4510)  
  
Random-Effects Model (k = 55; tau^2 estimator: REML)  
  
tau^2 (estimated amount of total heterogeneity): 0.0613 (SE = 0.0153)  
tau (square root of estimated tau^2 value): 0.2475  
I^2 (total heterogeneity / total variability): 82.01%  
H^2 (total variability / sampling variability): 5.56  
  
Test for Heterogeneity:  
Q(df = 54) = 208.7657, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1039 0.0382 2.7230 0.0065 0.0291 0.1787 \*\*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Estimated number of missing studies on the left side: 10 (SE = 4.1562)  
  
Random-Effects Model (k = 50; tau^2 estimator: REML)  
  
tau^2 (estimated amount of total heterogeneity): 0.0235 (SE = 0.0075)  
tau (square root of estimated tau^2 value): 0.1532  
I^2 (total heterogeneity / total variability): 66.15%  
H^2 (total variability / sampling variability): 2.95  
  
Test for Heterogeneity:  
Q(df = 49) = 145.8518, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0182 0.0276 -0.6583 0.5103 -0.0723 0.0360   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Estimated number of missing studies on the left side: 0 (SE = 2.5709)  
  
Random-Effects Model (k = 17; tau^2 estimator: REML)  
  
tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0038)  
tau (square root of estimated tau^2 value): 0.0018  
I^2 (total heterogeneity / total variability): 0.03%  
H^2 (total variability / sampling variability): 1.00  
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7564 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 3.0.3 Rank test

The test can be used to examine whether the observed effect sizes or outcomes and the corresponding sampling variances are correlated. A high correlation would indicate that the funnel plot is asymmetric, which may be a result of publication bias.

behavioral effects then positive effects

Rank Correlation Test for Funnel Plot Asymmetry  
  
Kendall's tau = 0.2229, p = 0.0161

Rank Correlation Test for Funnel Plot Asymmetry  
  
Kendall's tau = 0.2385, p = 0.0305

negative effects

Rank Correlation Test for Funnel Plot Asymmetry  
  
Kendall's tau = -0.0441, p = 0.8393

### 3.0.4 Egger’s Regression test

Egger’s regression test is based on asymmetry of the funnel plot, as using SE as predictor. Here, sign of asymmetry for the behavioral. Here, again, no sign of asymmetry for the plus.

Regression Test for Funnel Plot Asymmetry  
  
Model: mixed-effects meta-regression model  
Predictor: standard error  
  
Test for Funnel Plot Asymmetry: z = 3.6235, p = 0.0003  
Limit Estimate (as sei -> 0): b = -0.3009 (CI: -0.5282, -0.0735)

Regression Test for Funnel Plot Asymmetry  
  
Model: mixed-effects meta-regression model  
Predictor: standard error  
  
Test for Funnel Plot Asymmetry: z = 1.6493, p = 0.0991  
Limit Estimate (as sei -> 0): b = -0.1058 (CI: -0.2869, 0.0753)

and negative effects

Regression Test for Funnel Plot Asymmetry  
  
Model: mixed-effects meta-regression model  
Predictor: standard error  
  
Test for Funnel Plot Asymmetry: z = 0.1067, p = 0.9150  
Limit Estimate (as sei -> 0): b = 0.0331 (CI: -0.2094, 0.2756)

#### 3.0.4.1 Advanced tests

### 3.0.5 PET PEESE

PET stands for precision-effect test. It is a weighted-least-squares regression test, in which effect size is regressed on its standard error. PEESE stands for the precision-effect estimate with standard error (PEESE). It is a weighted-least-squares regression test, in which effect size is regressed on the square of the standard error. The rationale behind these tests is that publication bias is generally stronger with a larger standard error. Purposed by Stanley and Doucouliagos (2014), PET-PEESE consstudyIDers the statistical significance of the PET estimate to determine the choice of PET versus PEESE as final estimate. When PET is non-significant in a one-sstudyIDed test with alpha = .05, PET estimate is used. But when the estimate from PET is significant with alpha = .05, the PEESE estimate is used. Read Carter et al. (2019) for details <https://journals.sagepub.com/doi/abs/10.1177/2515245919847196>. Pet-Peese for behavioral outcomes

[1] -0.0362 -0.1343 0.0620

The model from the PET is g = -0.091, 95%CI [-0.265,0.083] The model from the PEESE is g = -0.036, 95%CI [-0.134,0.062]

Pet-Peese for plus

[1] -0.0217 -0.1142 0.0708

Fixed-Effects with Moderators Model (k = 40)  
  
I^2 (residual heterogeneity / unaccounted variability): 51.15%  
H^2 (unaccounted variability / sampling variability): 2.05  
R^2 (amount of heterogeneity accounted for): 2.59%  
  
Test for Residual Heterogeneity:  
QE(df = 38) = 77.7953, p-val = 0.0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 4.1666, p-val = 0.0412  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt -0.0937 0.0639 -1.4666 0.1425 -0.2189 0.0315   
SE 1.2034 0.5896 2.0412 0.0412 0.0479 2.3589 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

The model from the PET is g = -0.094, 95%CI [-0.279,0.091] The model from the PEESE is g = -0.022, 95%CI [-0.114,0.071]

PET-PEESE for minus

[1] 0.0458 -0.0992 0.1908

The model from the PET is g = 0.033, 95%CI [-0.244,0.311] The model from the PEESE is g = 0.046, 95%CI [-0.099,0.191]

### 3.0.6 puniform

P-uniform focuses on statistically-significant results. It is based on the assumption that p-distribution is “uniform conditional on the population effect size” (van Assen, van Aert, & Wicherts, 2015). It provstudyIDes a bias-corrected fixed-effects estimate. Read Carter et al. (2019) for details <https://journals.sagepub.com/doi/abs/10.1177/2515245919847196>. The fixed-effects estimate can only be used with heterogeneity below 50%. behavioral outcomes then plus

Method: P  
  
Effect size estimation p-uniform  
  
 est ci.lb ci.ub L.0 pval ksig  
 0.69 0.414 0.924 -4.64 <.001 9  
  
===  
  
Publication bias test p-uniform  
  
 L.pb pval  
 -4.48 1  
  
===  
  
Fixed-effect meta-analysis  
  
 est.fe se.fe zval.fe pval.fe ci.lb.fe ci.ub.fe Qstat Qpval  
 0.0679 0.0155 4.37 <.001 0.0374 0.0983 209 <.001

Method: P  
  
Effect size estimation p-uniform  
  
 est ci.lb ci.ub L.0 pval ksig  
 0.165 -0.0212 0.289 -1.81 0.0351 5  
  
===  
  
Publication bias test p-uniform  
  
 L.pb pval  
 -1.58 0.943  
  
===  
  
Fixed-effect meta-analysis  
  
 est.fe se.fe zval.fe pval.fe ci.lb.fe ci.ub.fe Qstat Qpval  
 0.0319 0.0171 1.86 0.0312 -0.0016 0.0655 82 <.001

for minus effects

Method: P  
  
Effect size estimation p-uniform  
  
 est ci.lb ci.ub L.0 pval ksig  
 0.313 -0.291 0.649 -1.32 0.0931 1  
  
===  
  
Publication bias test p-uniform  
  
 L.pb pval  
 -1.21 0.888  
  
===  
  
Fixed-effect meta-analysis  
  
 est.fe se.fe zval.fe pval.fe ci.lb.fe ci.ub.fe Qstat  
 0.046 0.0262 1.76 0.0395 -0.0053 0.0974 16.6  
 Qpval  
 0.41

### 3.0.7 Three-parameter selection model

Developed by Iyengar and Greenhouse (1988), the three parameters represent the average true underlying effect size, the heterogeneity of the random effect sizes and the probability that a non-significant effect goes into the literature.

The Vevea and Hedges (1995) weight-function model is a tool for modeling publication bias using weighted distribution theory. The model first estimates an unadjusted fixed-, random-, or mixed-effects model, where the observed effect sizes are assumed to be normally distributed as a function of predictors. This unadjusted model is no different from the traditional meta-analytic model. Next, the Vevea and Hedges (1995) weight-function model estimates an adjusted model that includes not only the original mean model, fixed-, random-, or mixed-effects, but a series of weights for any pre-specified p-value intervals of interest. This produces mean, variance component, and covariate estimates adjusted for publication bias, as well as weights that reflect the likelihood of observing effect sizes in each specified interval.

It is important to remember that the weight for each estimated p-value interval must be interpreted relative to the first interval, the weight for which is fixed to 1 so that the model is studyIDentified. In other words, a weight of 2 for an interval indicates that effect sizes in that p-value interval are about twice as likely to be observed as those in the first interval. Finally, it is also important to remember that the model uses p-value cutpoints corresponding to one-tailed p-values. This allows flexibility in the selection function, which does not have to be symmetric for effects in the opposite direction; a two-tailed p-value of 0.05 can therefore be represented as p < .025 or p > .975.

After both the unadjusted and adjusted meta-analytic models are estimated, a likelihood-ratio test compares the two. The degrees of freedom for this test are equal to the number of weights being estimated. If the likelihood-ratio test is significant, this indicates that the adjusted model is a better fit for the data, and that publication bias may be a concern.

To estimate a large number of weights for p-value intervals, the Vevea and Hedges (1995) model works best with large meta-analytic datasets. It may have trouble converging and yield unreliable parameter estimates if researchers, for instance, specify a p-value interval that contains no observed effect sizes. However, meta-analysts with small datasets are still likely to be interested in assessing publication bias, and need tools for doing so. Vevea and Woods (2005) attempted to solve this problem by adapting the Vevea and Hedges (1995) model to estimate fewer parameters. The meta-analyst can specify p-value cutpoints, as before, and specify corresponding fixed weights for those cutpoints. Then the model is estimated. For the adjusted model, only the variance component and mean model parameters are estimated, and they are adjusted relative to the fixed weights. For example, weights of 1 for each p-value interval specified describes a situation where there is absolutely no publication bias, in which the adjusted estimates are studyIDentical to the unadjusted estimates. By specifying weights that depart from 1 over various p-value intervals, meta-analysts can examine how various one-tailed or two-tailed selection patterns would alter their effect size estimates. If changing the pattern of weights drastically changes the estimated mean, this is evstudyIDence that the data may be vulnerable to publication bias.

For behavioral outcomes

Unadjusted Model (k = 55):  
  
tau^2 (estimated amount of total heterogeneity): 0.0593 (SE = 0.0173)  
tau (square root of estimated tau^2 value): 0.2435  
  
Test for Heterogeneity:  
Q(df = 54) = 208.7657, p-val = 9.27e-20  
  
Model Results:  
  
 estimate std.error z-stat p-val ci.lb ci.ub  
Intercept 0.1035 0.03789 2.731 0.006 0.02921 0.1777  
  
Adjusted Model (k = 55):  
  
tau^2 (estimated amount of total heterogeneity): 0.1152 (SE = 0.0347)  
tau (square root of estimated tau^2 value): 0.3394  
  
Test for Heterogeneity:  
Q(df = 54) = 208.7657, p-val = 9.27e-20  
  
Model Results:  
  
 estimate std.error z-stat p-val ci.lb ci.ub  
Intercept 0.3971 0.1211 3.279 0.001 0.1597 0.6344  
0.025 < p < 1 9.6161 5.8674 1.639 0.101 -1.8837 21.1160  
  
Likelihood Ratio Test:  
X^2(df = 1) = 15.4, p-val = 9e-05

for plus

Unadjusted Model (k = 40):  
  
tau^2 (estimated amount of total heterogeneity): 0.0123 (SE = 0.0053)  
tau (square root of estimated tau^2 value): 0.1109  
  
Test for Heterogeneity:  
Q(df = 39) = 81.9619, p-val = 0.000103  
  
Model Results:  
  
 estimate std.error z-stat p-val ci.lb ci.ub  
Intercept 0.04093 0.02553 1.603 0.1 -0.009102 0.09097  
  
Adjusted Model (k = 40):  
  
tau^2 (estimated amount of total heterogeneity): 0.0130 (SE = 0.0073)  
tau (square root of estimated tau^2 value): 0.1140  
  
Test for Heterogeneity:  
Q(df = 39) = 81.9619, p-val = 0.000103  
  
Model Results:  
  
 estimate std.error z-stat p-val ci.lb ci.ub  
Intercept 0.04548 0.04047 1.124 0.3 -0.03384 0.1248  
0.025 < p < 1 1.13192 0.92544 1.223 0.2 -0.68190 2.9457  
  
Likelihood Ratio Test:  
X^2(df = 1) = 0.0213, p-val = 0.9

For minus effects

Unadjusted Model (k = 17):  
  
tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0054)  
tau (square root of estimated tau^2 value): 0.0000  
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.48  
  
Model Results:  
  
 estimate std.error z-stat p-val ci.lb ci.ub  
Intercept 0.04602 0.02626 1.752 0.08 -0.005449 0.09749  
  
Adjusted Model (k = 17):  
  
tau^2 (estimated amount of total heterogeneity): 0.0000 (SE = 0.0123)  
tau (square root of estimated tau^2 value): 0.0000  
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.48  
  
Model Results:  
  
 estimate std.error z-stat p-val ci.lb ci.ub  
Intercept 0.04703 0.04851 0.9696 0.3 -0.04804 0.1421  
0.025 < p < 1 1.08105 2.96088 0.3651 0.7 -4.72217 6.8843  
  
Likelihood Ratio Test:  
X^2(df = 1) = 0.00434, p-val = 0.9

### 3.0.8 Henmi and Copas (2010)

Henmi and Copas (2010) proposed a new confstudyIDence interval for meta-analysis. It retains the assessment of the extra uncertainty of the random effects setting for describing heterogeneity between studies, but focuses on the fixed effects estimate to construct a confstudyIDence interval. For more details, read Henmi and Copas (2010)<https://www.ncbi.nlm.nih.gov/pubmed/20963748>.

method tau2 estimate se ci.lb ci.ub   
rma REML 0.0613 0.1039 0.0382 0.0291 0.1787   
hc DL 0.0385 0.0679 0.0375 -0.0075 0.1432

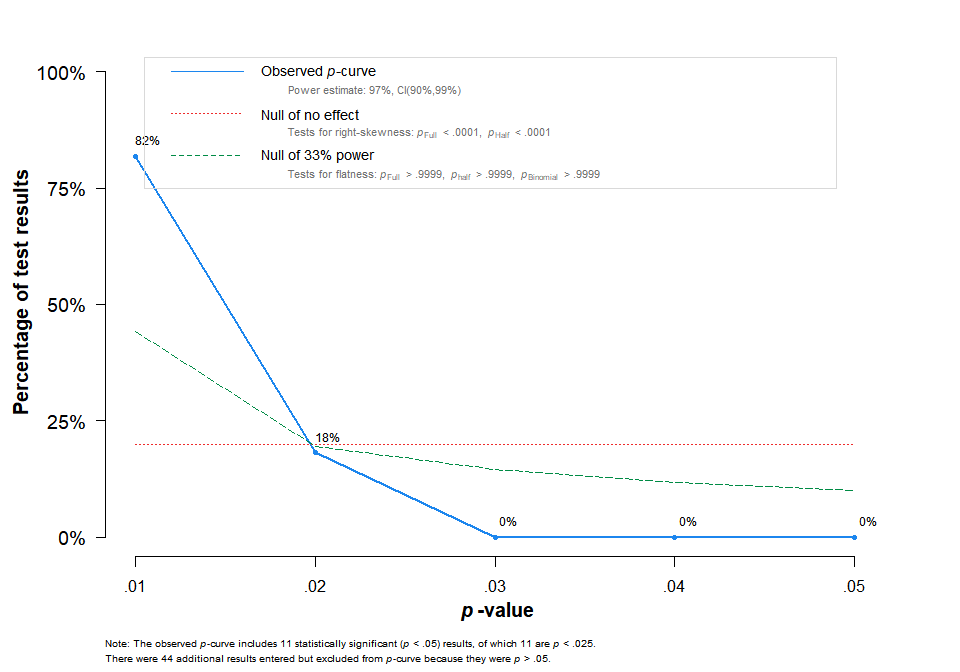
method tau2 estimate se ci.lb ci.ub   
rma REML 0.0129 0.0412 0.0257 -0.0092 0.0916   
hc DL 0.0130 0.0319 0.0268 -0.0227 0.0866

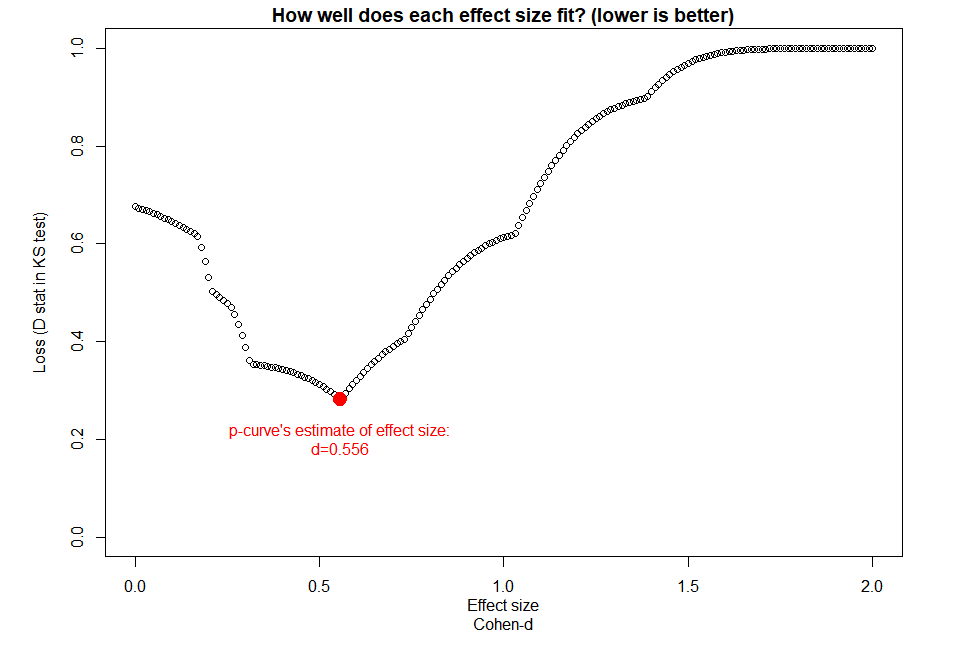
method tau2 estimate se ci.lb ci.ub   
rma REML 0.0000 0.0460 0.0262 -0.0053 0.0974   
hc DL 0.0005 0.0460 0.0268 -0.0046 0.0966

### 3.0.9 P-curve

P-curve refers to the distribution of (only) significant (*p* < .05) p-values. It differs from asymmetry tests mentioned above. It is based on the assumption that publication bias is a result of “p-hacking” - which means playing around the data to ensure the p-value drops below 0.05, obtaining “statistical significance”. The effect size adjusted estimation is based on significant effects. It is important to recognize that, when the heteorogeneity is medium to high (I squ are 50% or above, the I square of our study is over 90%), the adjusted effect size is an overestimation (van Aert, Wicherts, & van Assen, 2016 - <https://journals.sagepub.com/doi/pdf/10.1177/1745691616650874>). For more information about P-curve, please check Simonsohn, Nelson, and Simmons (2014) - <https://repository.upenn.edu/cgi/viewcontent.cgi?article=1077&context=ostudyID_papers>

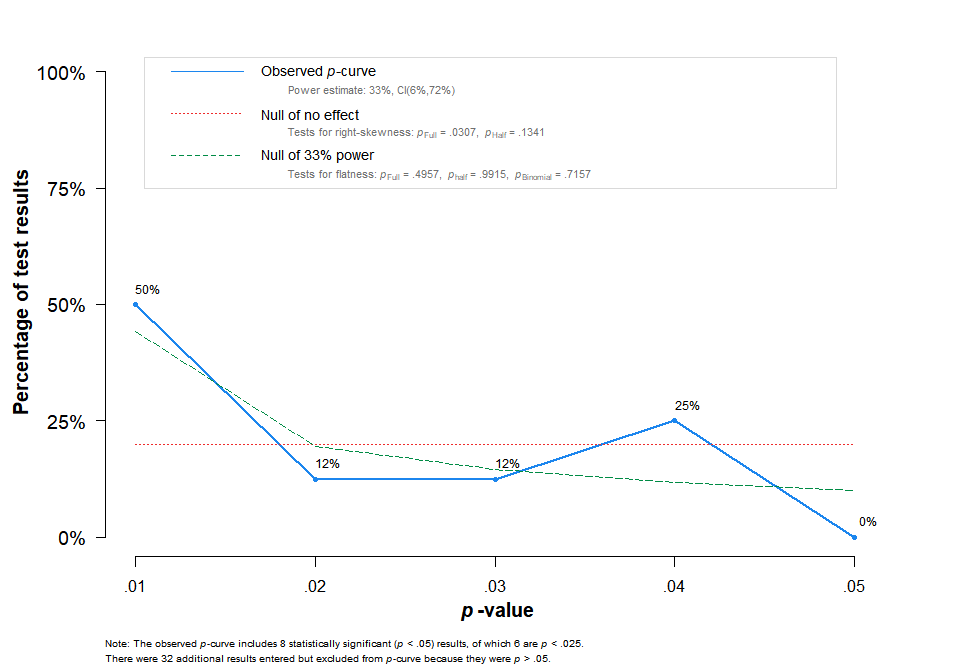
Number of studies: k = 55  
  
 95%-CI z p-value  
Common effect model 0.0679 [0.0374; 0.0983] 4.37 < 0.0001  
Random effects model 0.1039 [0.0291; 0.1787] 2.72 0.0065  
  
Quantifying heterogeneity (with 95%-CIs):  
 tau^2 = 0.0613 [0.0443; 0.1305]; tau = 0.2475 [0.2105; 0.3612]  
 I^2 = 74.1% [66.4%; 80.1%]; H = 1.97 [1.72; 2.24]  
  
Test of heterogeneity:  
 Q d.f. p-value  
 208.77 54 < 0.0001  
  
Details of meta-analysis methods:  
- Inverse variance method  
- Restricted maximum-likelihood estimator for tau^2  
- Q-Profile method for confidence interval of tau^2 and tau  
- Calculation of I^2 based on Q

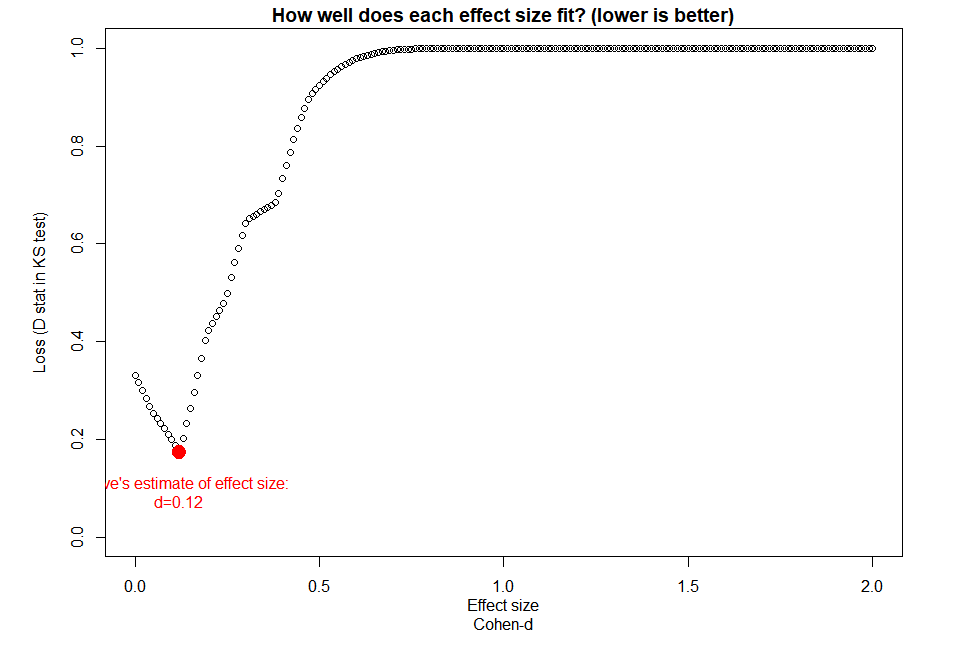




P-curve analysis   
 -----------------------   
- Total number of provided studies: k = 55   
- Total number of p<0.05 studies included into the analysis: k = 11 (20%)   
- Total number of studies with p<0.025: k = 11 (20%)   
   
Results   
 -----------------------   
 pBinomial zFull pFull zHalf pHalf  
Right-skewness test 0 -8.96 0 -7.75 0  
Flatness test 1 5.96 1 7.35 1  
Note: p-values of 0 or 1 correspond to p<0.001 and p>0.999, respectively.   
Power Estimate: 97% (90.1%-99%)  
   
Evidential value   
 -----------------------   
- Evidential value present: yes   
- Evidential value absent/inadequate: no   
   
P-curve's estimate of the true effect size: d=0.556   
   
Warning: I-squared of the meta-analysis is >= 50%, so effect size estimates are not trustworthy.

Number of studies: k = 40  
  
 95%-CI z p-value  
Common effect model 0.0319 [-0.0016; 0.0655] 1.86 0.0624  
Random effects model 0.0412 [-0.0092; 0.0916] 1.60 0.1094  
  
Quantifying heterogeneity (with 95%-CIs):  
 tau^2 = 0.0129 [0.0040; 0.0268]; tau = 0.1135 [0.0630; 0.1636]  
 I^2 = 52.4% [31.7%; 66.8%]; H = 1.45 [1.21; 1.74]  
  
Test of heterogeneity:  
 Q d.f. p-value  
 81.96 39 < 0.0001  
  
Details of meta-analysis methods:  
- Inverse variance method  
- Restricted maximum-likelihood estimator for tau^2  
- Q-Profile method for confidence interval of tau^2 and tau  
- Calculation of I^2 based on Q





P-curve analysis   
 -----------------------   
- Total number of provided studies: k = 40   
- Total number of p<0.05 studies included into the analysis: k = 8 (20%)   
- Total number of studies with p<0.025: k = 6 (15%)   
   
Results   
 -----------------------   
 pBinomial zFull pFull zHalf pHalf  
Right-skewness test 0.145 -1.871 0.031 -1.11 0.134  
Flatness test 0.716 -0.011 0.496 2.39 0.992  
Note: p-values of 0 or 1 correspond to p<0.001 and p>0.999, respectively.   
Power Estimate: 33% (6.1%-72%)  
   
Evidential value   
 -----------------------   
- Evidential value present: no   
- Evidential value absent/inadequate: no   
   
P-curve's estimate of the true effect size: d=0.12   
   
Warning: I-squared of the meta-analysis is >= 50%, so effect size estimates are not trustworthy.

Number of studies: k = 17  
  
 95%-CI z p-value  
Common effect model 0.0460 [-0.0053; 0.0974] 1.76 0.0790  
Random effects model 0.0460 [-0.0053; 0.0974] 1.76 0.0790  
  
Quantifying heterogeneity (with 95%-CIs):  
 tau^2 < 0.0001 [0.0000; 0.0222]; tau = 0.0018 [0.0000; 0.1491]  
 I^2 = 3.7% [0.0%; 52.9%]; H = 1.02 [1.00; 1.46]  
  
Test of heterogeneity:  
 Q d.f. p-value  
 16.62 16 0.4105  
  
Details of meta-analysis methods:  
- Inverse variance method  
- Restricted maximum-likelihood estimator for tau^2  
- Q-Profile method for confidence interval of tau^2 and tau  
- Calculation of I^2 based on Q

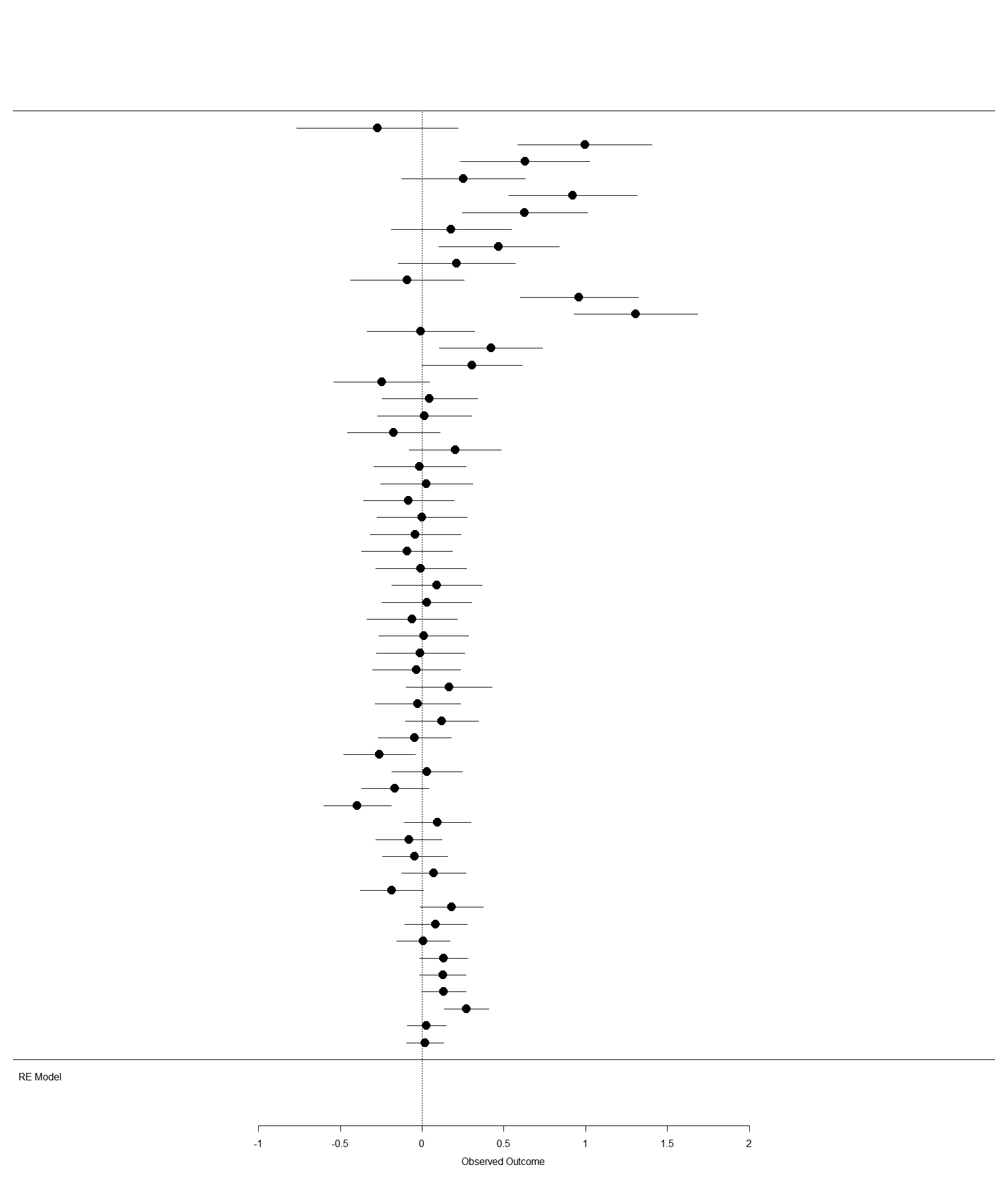
# 4. exploration of “outliers”

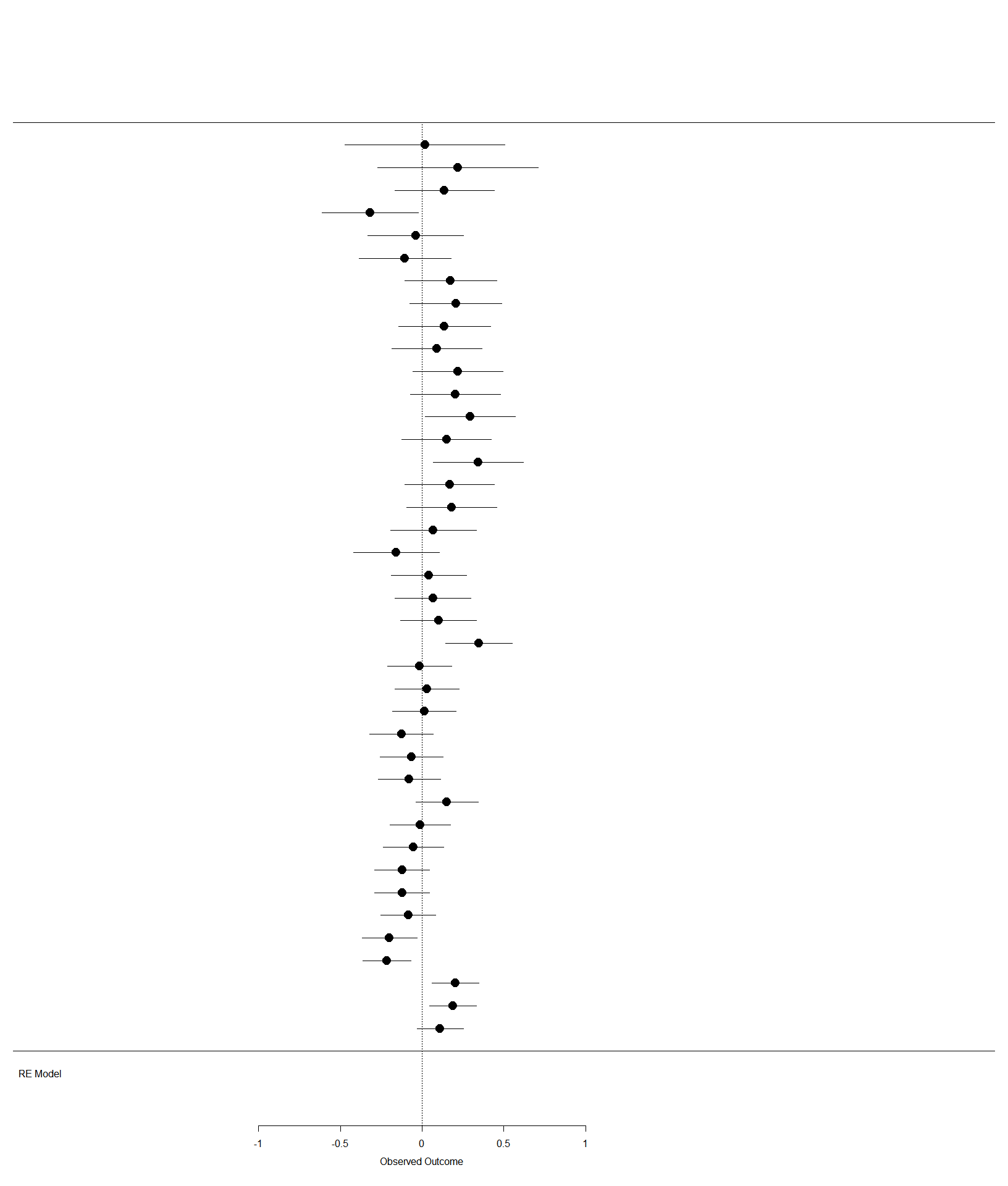
One datapoint is a highly negative effect size of d = -0.75. This comes from the study Steffel et al. (2016). The differences between this ES and others from the same study are that the “context” is related to health and it is a field experiment (the others are online experiments). the effect size is also lower than the other conditions (210 instead of 429 for the survey, 779 for the environment).Finally, the analysis is via a count instead of a mean.

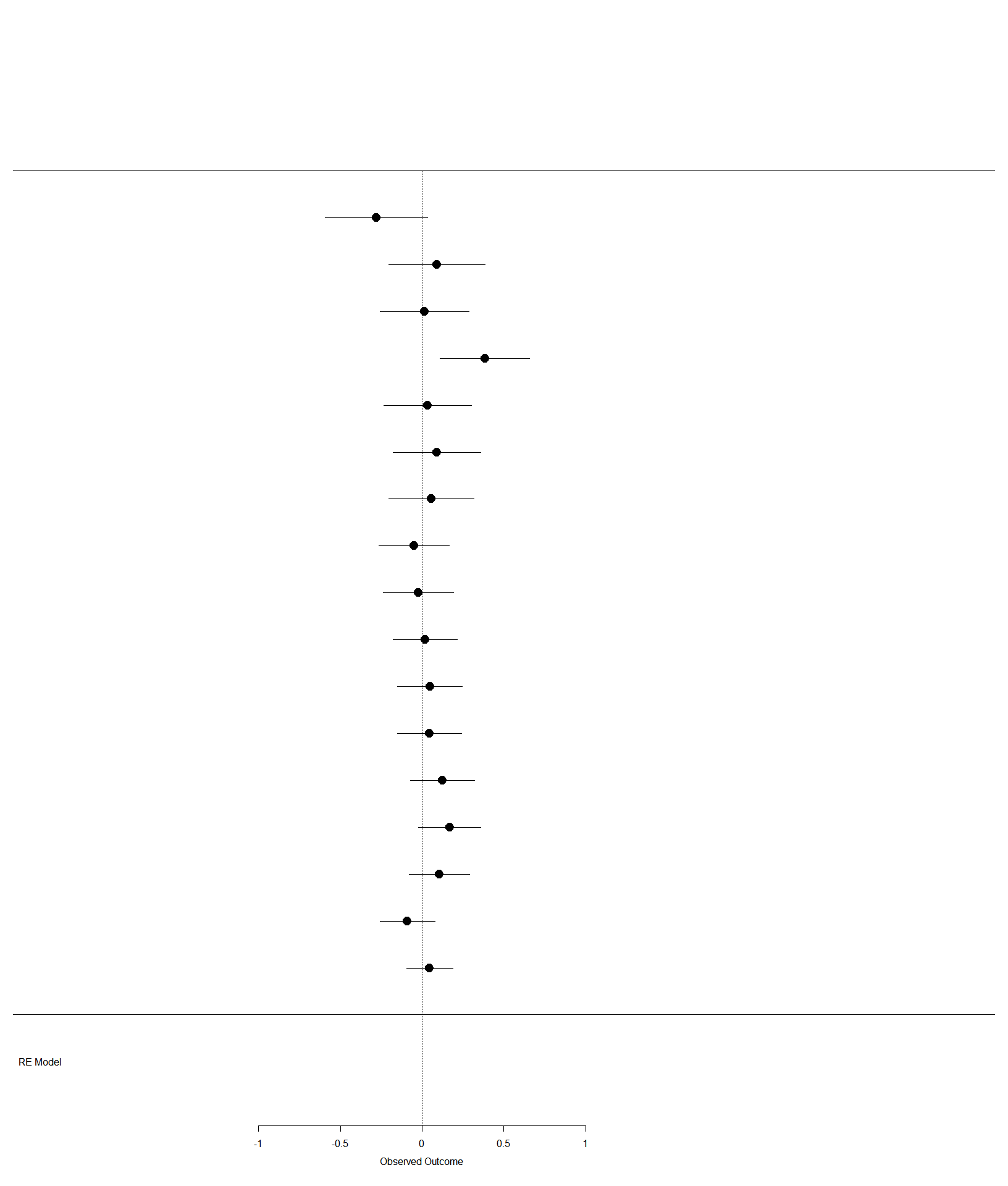
Three datapoints have a high effect size (>.80). They all are from Paunov and colleagues (2019 and 2020). The common points are that the outcome is a choice from survey lenght. The sample sizes are also low (265 and 256). They are online experiments. as for the Steffel study, they are counts and not means.

It leads to the following investigations : we can conduct a catterpillar analysis based on the sample size : how varies the MA with an increasing in sample size? Second, we can conduct the analysis for a subset for counts only and compare with means. We can check difference between online and other experiments. finally, we can subset the “choice from survey lenght” to see.

### 4.0.1 exploration of effect size







What we see in the forest plot is that the samples with the lowest sizes have very high heterogeneity compared to the one with a highest sample size.

## 4.1 Influence point

They are the 3 points flagged (Paunov et al.)

# 5. removal of outliers

test of excess significance

Test of Excess Significance  
  
Observed Number of Significant Findings: 14 (out of 55)  
Expected Number of Significant Findings: 18.9239  
Observed Number / Expected Number: 0.7398  
  
Estimated Power of Tests (based on theta = 0.1039)  
  
 min q1 median q3 max   
0.1903 0.2965 0.3284 0.4012 0.5152   
  
Test of Excess Significance: p = 0.9189 (X^2 = 1.9532, df = 1)  
Limit Estimate (theta\_lim): not estimable

Test of Excess Significance  
  
Observed Number of Significant Findings: 5 (out of 40)  
Expected Number of Significant Findings: 7.3450  
Observed Number / Expected Number: 0.6807  
  
Estimated Power of Tests (based on theta = 0.0412)  
  
 min q1 median q3 max   
0.0887 0.1462 0.1756 0.2151 0.2806   
  
Test of Excess Significance: p = 0.8309 (X^2 = 0.9171, df = 1)  
Limit Estimate (theta\_lim): not estimable

# 6. Moderators

## 6.1 Count versus Means

### 6.1.1 behavioral

Multivariate Meta-Analysis Model (k = 55; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0548 0.2342 22 no reference   
sigma^2.2 0.0009 0.0296 31 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 53) = 203.2861, p-val < .0001  
  
Test of Moderators (coefficient 2):  
F(df1 = 1, df2 = 53) = 5.9063, p-val = 0.0185  
  
Model Results:  
  
 estimate se tval df pval ci.lb ci.ub   
intrcpt 0.1603 0.0580 2.7617 53 0.0079 0.0439 0.2767   
`effect-size-type`mean -0.2073 0.0853 -2.4303 53 0.0185 -0.3784 -0.0362   
   
intrcpt \*\*   
`effect-size-type`mean \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.1.2 plus

Plus has only means

for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 15) = 12.3531, p-val = 0.6521  
  
Test of Moderators (coefficient 2):  
F(df1 = 1, df2 = 15) = 4.2675, p-val = 0.0566  
  
Model Results:  
  
 estimate se tval df pval ci.lb ci.ub   
intrcpt -0.2798 0.1599 -1.7501 15 0.1005 -0.6206 0.0610   
`effect-size-type`mean 0.3348 0.1621 2.0658 15 0.0566 -0.0106 0.6803   
   
intrcpt   
`effect-size-type`mean .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.1.3 count

#### 6.1.3.1 behav

Multivariate Meta-Analysis Model (k = 36; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0747 0.2732 18 no reference   
sigma^2.2 0.0039 0.0621 23 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 35) = 192.8761, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1601 0.0702 2.2798 0.0226 0.0225 0.2978 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.1.3.2 plus

only means

#### 6.1.3.3 for minus

Only one effect from Paunov (2018) : cohen’s d of -0.28 and SE of 0.16 ### mean #### behav

Multivariate Meta-Analysis Model (k = 19; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 8 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 18) = 10.4100, p-val = 0.9177  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0016 0.0323 0.0494 0.9606 -0.0617 0.0649   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.1.3.4 plus

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0002 0.0126 9 no reference   
sigma^2.2 0.0179 0.1339 13 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 39) = 81.9619, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0373 0.0434 0.8602 0.3897 -0.0477 0.1224   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.1.3.5 for minus

Multivariate Meta-Analysis Model (k = 16; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 5 no reference   
sigma^2.2 0.0000 0.0000 6 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 15) = 12.3531, p-val = 0.6521  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0550 0.0266 2.0714 0.0383 0.0030 0.1071 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## 6.2 Lab vs online experiments

### 6.2.1 behav

Multivariate Meta-Analysis Model (k = 55; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0579 0.2406 22 no reference   
sigma^2.2 0.0040 0.0636 31 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 52) = 206.7048, p-val < .0001  
  
Test of Moderators (coefficients 2:3):  
F(df1 = 2, df2 = 52) = 0.3275, p-val = 0.7222  
  
Model Results:  
  
 estimate se tval df pval ci.lb   
intrcpt 0.0205 0.2537 0.0809 52 0.9359 -0.4885   
experimenttypeLab experiment -0.0186 0.3071 -0.0607 52 0.9518 -0.6350   
experimenttypeOnline experiment 0.1131 0.2611 0.4332 52 0.6667 -0.4109   
 ci.ub   
intrcpt 0.5295   
experimenttypeLab experiment 0.5977   
experimenttypeOnline experiment 0.6371   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.2.2 plus

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0002 0.0138 9 no reference   
sigma^2.2 0.0188 0.1371 13 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 38) = 81.7221, p-val < .0001  
  
Test of Moderators (coefficient 2):  
F(df1 = 1, df2 = 38) = 0.1345, p-val = 0.7158  
  
Model Results:  
  
 estimate se tval df pval ci.lb   
intrcpt 0.1182 0.2244 0.5269 38 0.6013 -0.3360   
experimenttypeOnline experiment -0.0839 0.2288 -0.3668 38 0.7158 -0.5472   
 ci.ub   
intrcpt 0.5724   
experimenttypeOnline experiment 0.3793   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.2.3 for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0050 0.0710 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 15) = 16.5715, p-val = 0.3451  
  
Test of Moderators (coefficient 2):  
F(df1 = 1, df2 = 15) = 0.1010, p-val = 0.7550  
  
Model Results:  
  
 estimate se tval df pval ci.lb   
intrcpt 0.0559 0.0877 0.6367 15 0.5339 -0.1311   
experimenttypeOnline experiment -0.0316 0.0994 -0.3178 15 0.7550 -0.2436   
 ci.ub   
intrcpt 0.2429   
experimenttypeOnline experiment 0.1804   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.2.4 Online experiments

#### 6.2.4.1 behav

Multivariate Meta-Analysis Model (k = 48; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0620 0.2490 18 no reference   
sigma^2.2 0.0041 0.0640 27 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 47) = 204.0104, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1344 0.0639 2.1017 0.0356 0.0091 0.2597 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.2.4.2 plus

Multivariate Meta-Analysis Model (k = 38; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0002 0.0138 8 no reference   
sigma^2.2 0.0188 0.1371 12 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 37) = 81.3962, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0343 0.0451 0.7597 0.4474 -0.0542 0.1227   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.2.4.3 for minus

Multivariate Meta-Analysis Model (k = 11; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0050 0.0710 5 no reference   
sigma^2.2 0.0000 0.0000 6 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 10) = 9.4113, p-val = 0.4936  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0243 0.0468 0.5180 0.6045 -0.0675 0.1160   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.2.5 Lab experiments

#### 6.2.5.1 behav

Multivariate Meta-Analysis Model (k = 5; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 3 no reference   
sigma^2.2 0.0000 0.0000 3 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 4) = 2.6535, p-val = 0.6174  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0095 0.0653 0.1461 0.8838 -0.1185 0.1376   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.2.5.2 plus

Multivariate Meta-Analysis Model (k = 2; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 1) = 0.3260, p-val = 0.5680  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1182 0.1770 0.6677 0.5043 -0.2288 0.4652   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.2.5.3 for minus

Multivariate Meta-Analysis Model (k = 6; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 5) = 7.1602, p-val = 0.2090  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0559 0.0515 1.0838 0.2784 -0.0452 0.1569   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.2.6 Field experiments

#### 6.2.6.1 behav

Multivariate Meta-Analysis Model (k = 2; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 1) = 0.0410, p-val = 0.8396  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0205 0.0488 0.4203 0.6743 -0.0752 0.1162   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

###” plus O obs

for minus : No Field experiment

## 6.3 Intervention category

### 6.3.1 behav

Multivariate Meta-Analysis Model (k = 55; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0526 0.2293 22 no reference   
sigma^2.2 0.0039 0.0626 31 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 53) = 193.1264, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.0024, p-val = 0.9611  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.1206 0.1654 0.7292 0.4659 -0.2036 0.4448   
mods -0.0028 0.0567 -0.0488 0.9611 -0.1138 0.1083   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.3.1.1 plus

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0002 0.0138 9 no reference   
sigma^2.2 0.0188 0.1371 13 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 38) = 81.7221, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.1345, p-val = 0.7138  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.2022 0.4510 0.4483 0.6540 -0.6817 1.0861   
mods -0.0839 0.2288 -0.3668 0.7138 -0.5325 0.3646   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.3.1.2 for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.3.2 Decision structure

#### 6.3.2.1 behav

Multivariate Meta-Analysis Model (k = 45; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0555 0.2356 18 no reference   
sigma^2.2 0.0041 0.0637 27 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 44) = 174.4658, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1560 0.0616 2.5337 0.0113 0.0353 0.2766 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.3.2.2 plus

Multivariate Meta-Analysis Model (k = 38; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0002 0.0138 8 no reference   
sigma^2.2 0.0188 0.1371 12 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 37) = 81.3962, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0343 0.0451 0.7597 0.4474 -0.0542 0.1227   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.3.2.3 for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.3.3 Decision Information

#### 6.3.3.1 behav

Multivariate Meta-Analysis Model (k = 9; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0074 0.0859 6 no reference   
sigma^2.2 0.0074 0.0859 6 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 8) = 16.8958, p-val = 0.0312  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0647 0.0654 -0.9885 0.3229 -0.1929 0.0636   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

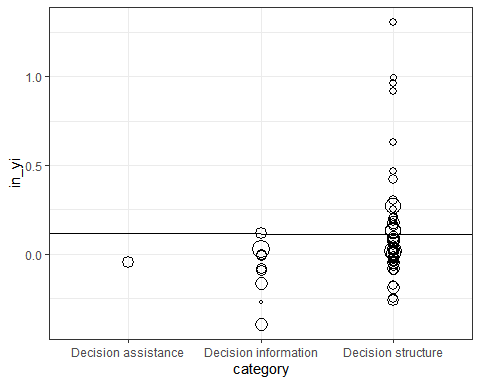
#### 6.3.3.2 plus

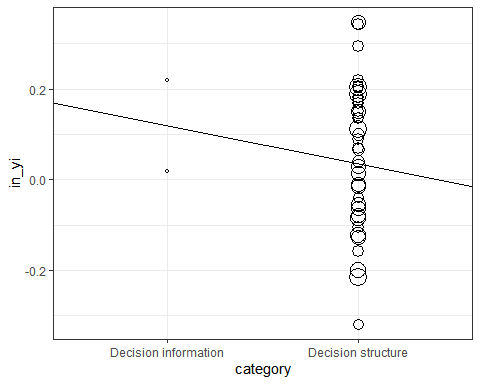
Multivariate Meta-Analysis Model (k = 2; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 1) = 0.3260, p-val = 0.5680  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1182 0.1770 0.6677 0.5043 -0.2288 0.4652   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

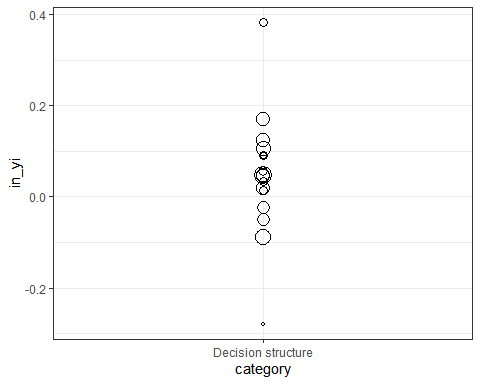
#### 6.3.3.3 for minus : zero

Only one effect size for Decision assistance : g = -0.05, vi = 0.00364, SE = 0.0604

### 6.3.4 Plot for intervention category







## 6.4 Domain categorization

### 6.4.1 behav

Multivariate Meta-Analysis Model (k = 55; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0512 0.2263 22 no reference   
sigma^2.2 0.0022 0.0473 31 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 53) = 203.2075, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 3.0112, p-val = 0.0827  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt -0.0174 0.0919 -0.1895 0.8497 -0.1976 0.1628   
mods 0.0394 0.0227 1.7353 0.0827 -0.0051 0.0838 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.4.2 plus

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 9 no reference   
sigma^2.2 0.0196 0.1400 13 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 38) = 80.1228, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.3250, p-val = 0.5686  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.0973 0.1138 0.8551 0.3925 -0.1258 0.3204   
mods -0.0228 0.0400 -0.5701 0.5686 -0.1013 0.0557   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.4.3 for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0012 0.0349 7 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 15) = 16.5652, p-val = 0.3455  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.0369, p-val = 0.8476  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.0299 0.0713 0.4198 0.6746 -0.1098 0.1696   
mods 0.0050 0.0258 0.1922 0.8476 -0.0456 0.0555   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.4.4 Environment

#### 6.4.4.1 behav

Multivariate Meta-Analysis Model (k = 15; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 5 no reference   
sigma^2.2 0.0000 0.0000 6 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 14) = 8.4858, p-val = 0.8625  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0051 0.0313 0.1641 0.8697 -0.0562 0.0664   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.4.4.2 plus

Multivariate Meta-Analysis Model (k = 16; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0315 0.1774 2 no reference   
sigma^2.2 0.0020 0.0449 3 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 15) = 22.1106, p-val = 0.1049  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0392 0.1346 0.2913 0.7708 -0.2246 0.3030   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.4.4.3 for minus

Multivariate Meta-Analysis Model (k = 8; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 2 no reference   
sigma^2.2 0.0000 0.0000 2 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 7) = 7.2084, p-val = 0.4075  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0592 0.0458 1.2929 0.1960 -0.0305 0.1489   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.4.5 Food

#### 6.4.5.1 behav

Multivariate Meta-Analysis Model (k = 2; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 1) = 0.0410, p-val = 0.8396  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0205 0.0488 0.4203 0.6743 -0.0752 0.1162   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.4.5.2 plus

0 obs

#### 6.4.5.3 for minus

0 estimates

### Health

#### behav

Multivariate Meta-Analysis Model (k = 8; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0243 0.1559 5 no reference   
sigma^2.2 0.0243 0.1559 5 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 7) = 11.7717, p-val = 0.1083  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0505 0.1185 0.4261 0.6700 -0.1818 0.2829   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.4.5.4 plus

Multivariate Meta-Analysis Model (k = 6; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0074 0.0857 2 no reference   
sigma^2.2 0.0074 0.0857 2 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 5) = 3.1518, p-val = 0.6766  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0658 0.1103 -0.5968 0.5506 -0.2821 0.1504   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.4.5.5 for minus

only one study : estimate :-0.089 variance 0.007 ### Other #### behav

Multivariate Meta-Analysis Model (k = 24; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.1003 0.3167 11 no reference   
sigma^2.2 0.0039 0.0626 16 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 23) = 160.8064, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.2314 0.1018 2.2738 0.0230 0.0319 0.4309 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.4.5.6 plus

Multivariate Meta-Analysis Model (k = 10; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 4 no reference   
sigma^2.2 0.0166 0.1288 5 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 9) = 19.6763, p-val = 0.0200  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1102 0.0696 1.5836 0.1133 -0.0262 0.2466   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

#### 6.4.5.7 for minus

Multivariate Meta-Analysis Model (k = 4; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0110 0.1047 3 no reference   
sigma^2.2 0.0110 0.1047 3 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 3) = 6.0503, p-val = 0.1092  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0102 0.1023 0.0997 0.9205 -0.1903 0.2107   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.4.6 Pro-social

#### 6.4.6.1 behav

Multivariate Meta-Analysis Model (k = 6; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0024 0.0486 3 no reference   
sigma^2.2 0.0024 0.0486 3 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 5) = 10.3108, p-val = 0.0669  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0224 0.0568 0.3951 0.6928 -0.0889 0.1338   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

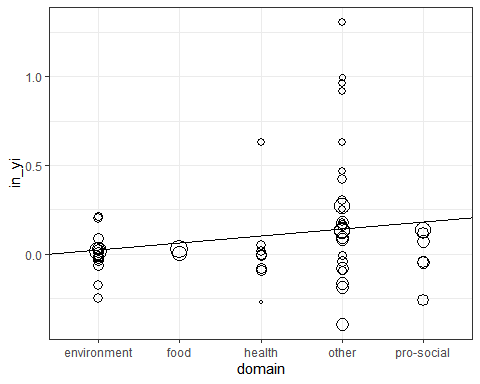
#### 6.4.6.2 plus

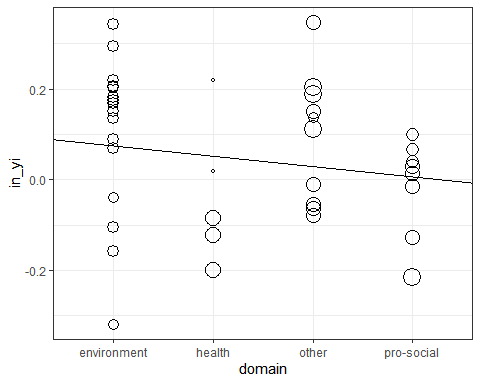
Multivariate Meta-Analysis Model (k = 8; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 2 no reference   
sigma^2.2 0.0147 0.1213 3 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 7) = 9.6386, p-val = 0.2100  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0532 0.0794 -0.6696 0.5031 -0.2088 0.1025   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

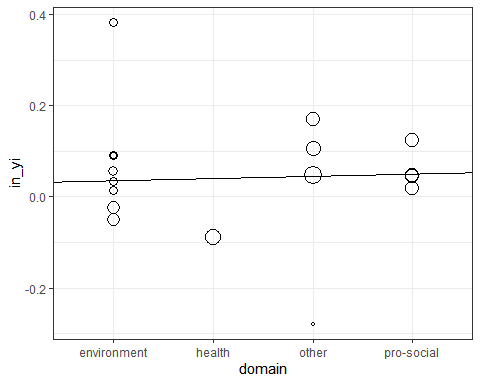
#### 6.4.6.3 for minus

Multivariate Meta-Analysis Model (k = 4; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 3) = 0.6193, p-val = 0.8920  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0586 0.0502 1.1682 0.2427 -0.0397 0.1569   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 6.4.7 Plot for domains







# 7. Generalizability

Multivariate Meta-Analysis Model (k = 47; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0393 0.1983 18 no reference   
sigma^2.2 0.0151 0.1227 26 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 45) = 150.6392, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 1.7177, p-val = 0.1900  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.3300 0.1801 1.8318 0.0670 -0.0231 0.6831 .   
mods -0.1270 0.0969 -1.3106 0.1900 -0.3169 0.0629   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 37; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0010 0.0314 8 no reference   
sigma^2.2 0.0183 0.1353 12 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 35) = 63.7137, p-val = 0.0021  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.0144, p-val = 0.9045  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.0371 0.1200 0.3094 0.7570 -0.1981 0.2724   
mods -0.0090 0.0749 -0.1199 0.9045 -0.1557 0.1377   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

Multivariate Meta-Analysis Model (k = 16; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0016 0.0394 5 no reference   
sigma^2.2 0.0004 0.0194 6 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 14) = 15.7912, p-val = 0.3263  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.7491, p-val = 0.3868  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt -0.1148 0.1801 -0.6376 0.5238 -0.4678 0.2381   
mods 0.0813 0.0939 0.8655 0.3868 -0.1028 0.2653   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## 7.1 Level 1

Multivariate Meta-Analysis Model (k = 19; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.1081 0.3287 6 no reference   
sigma^2.2 0.0000 0.0000 11 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 18) = 52.9533, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.2487 0.1429 1.7407 0.0817 -0.0313 0.5288 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 22; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0072 0.0846 4 no reference   
sigma^2.2 0.0114 0.1069 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 21) = 37.6317, p-val = 0.0142  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0257 0.0679 0.3790 0.7047 -0.1074 0.1589   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

Multivariate Meta-Analysis Model (k = 3; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0220 0.1483 2 no reference   
sigma^2.2 0.0220 0.1483 2 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 2) = 3.5082, p-val = 0.1731  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0818 0.1743 -0.4695 0.6387 -0.4235 0.2598   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## 7.2 Level 2

Multivariate Meta-Analysis Model (k = 26; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0371 0.1925 12 no reference   
sigma^2.2 0.0079 0.0891 14 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 25) = 96.7799, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0383 0.0661 0.5792 0.5624 -0.0913 0.1679   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 15; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 5 no reference   
sigma^2.2 0.0194 0.1394 6 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 14) = 26.0819, p-val = 0.0253  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0187 0.0668 0.2793 0.7800 -0.1123 0.1496   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

Multivariate Meta-Analysis Model (k = 13; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 4 no reference   
sigma^2.2 0.0000 0.0000 4 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 12) = 12.2830, p-val = 0.4232  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0550 0.0298 1.8456 0.0650 -0.0034 0.1133 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

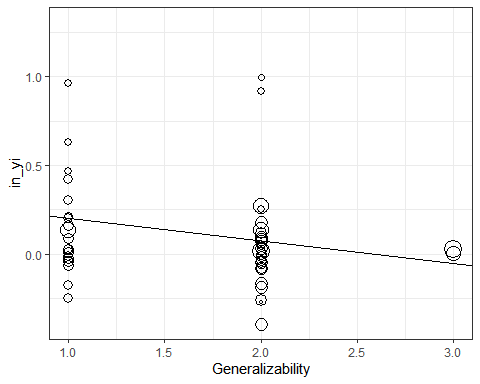
## 7.3 Level 3

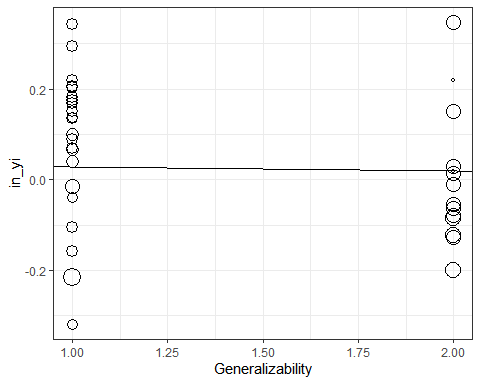
Multivariate Meta-Analysis Model (k = 2; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 1) = 0.0410, p-val = 0.8396  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0205 0.0488 0.4203 0.6743 -0.0752 0.1162   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

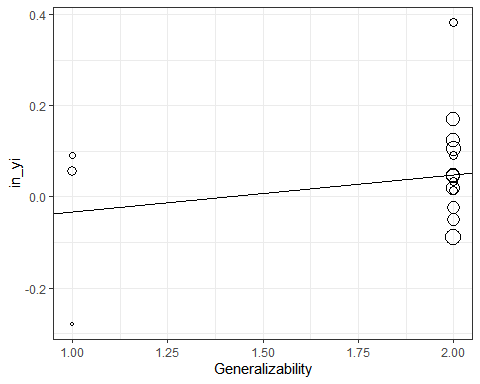
o obs for GEN 3 PLUS

for minus

n = 0 ## Plot for generalizabilitty







# 8. Level of incentive

first res is the anova between incentives for behavioral outcomes. then the estimate for no incentives then estimate for incentives.

Multivariate Meta-Analysis Model (k = 47; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0582 0.2413 18 no reference   
sigma^2.2 0.0027 0.0515 26 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 45) = 153.1917, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 2.7297, p-val = 0.0985  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt -0.1174 0.1490 -0.7881 0.4306 -0.4094 0.1746   
mods 0.1241 0.0751 1.6522 0.0985 -0.0231 0.2713 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 15; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0059 0.0769 5 no reference   
sigma^2.2 0.0000 0.0000 6 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 14) = 14.1424, p-val = 0.4392  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0189 0.0546 0.3459 0.7294 -0.0881 0.1258   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 32; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0467 0.2161 16 no reference   
sigma^2.2 0.0242 0.1554 20 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 31) = 139.0493, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1370 0.0698 1.9616 0.0498 0.0001 0.2738 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 37; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 8 no reference   
sigma^2.2 0.0206 0.1435 12 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 35) = 68.0322, p-val = 0.0007  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.1181, p-val = 0.7312  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.0851 0.1824 0.4662 0.6410 -0.2725 0.4426   
mods -0.0550 0.1602 -0.3436 0.7312 -0.3690 0.2589   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

incentives = 0

Multivariate Meta-Analysis Model (k = 33; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 8 no reference   
sigma^2.2 0.0206 0.1435 11 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 32) = 66.5518, p-val = 0.0003  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0300 0.0504 0.5955 0.5515 -0.0688 0.1288   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

incentives = 1

Multivariate Meta-Analysis Model (k = 4; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 3) = 1.4804, p-val = 0.6868  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0250 0.0502 -0.4986 0.6180 -0.1233 0.0733   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

level of incentive for minus

Multivariate Meta-Analysis Model (k = 16; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0034 0.0579 5 no reference   
sigma^2.2 0.0034 0.0579 6 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 14) = 16.5279, p-val = 0.2822  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.0743, p-val = 0.7852  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt -0.0071 0.1327 -0.0537 0.9572 -0.2672 0.2529   
mods 0.0277 0.1017 0.2726 0.7852 -0.1716 0.2270   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

incentives = 0

Multivariate Meta-Analysis Model (k = 12; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0034 0.0579 5 no reference   
sigma^2.2 0.0034 0.0579 5 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 11) = 15.9086, p-val = 0.1446  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0206 0.0529 0.3894 0.6970 -0.0831 0.1243   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

incentives = 1

Multivariate Meta-Analysis Model (k = 4; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 1 yes reference   
sigma^2.2 0.0000 0.0000 1 yes reference/studyID   
  
Test for Heterogeneity:  
Q(df = 3) = 0.6193, p-val = 0.8920  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0586 0.0502 1.1682 0.2427 -0.0397 0.1569   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

# 9. transparency categories meta-analysis

The goal of this section is to find how each category affects the efficacy of nudges.

## 9.1 Transparency category: Presence

# 10. Pre-registration

Multivariate Meta-Analysis Model (k = 55; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0513 0.2265 22 no reference   
sigma^2.2 0.0042 0.0649 31 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 53) = 207.7801, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 1.2149, p-val = 0.2704  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.2821 0.1628 1.7330 0.0831 -0.0369 0.6011 .   
mods -0.1261 0.1144 -1.1022 0.2704 -0.3504 0.0982   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

preregistered = yes

Multivariate Meta-Analysis Model (k = 14; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0073 0.0853 7 no reference   
sigma^2.2 0.0029 0.0537 9 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 13) = 30.9179, p-val = 0.0035  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0352 0.0458 0.7679 0.4425 -0.0546 0.1250   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

preregistered = no

Multivariate Meta-Analysis Model (k = 41; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0860 0.2932 15 no reference   
sigma^2.2 0.0000 0.0000 22 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 40) = 176.8622, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1580 0.0813 1.9451 0.0518 -0.0012 0.3173 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

## 10.1 Plus

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0023 0.0476 9 no reference   
sigma^2.2 0.0180 0.1341 13 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 38) = 81.4189, p-val < .0001  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 0.0336, p-val = 0.8545  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt 0.0624 0.1401 0.4450 0.6563 -0.2123 0.3370   
mods -0.0188 0.1026 -0.1834 0.8545 -0.2200 0.1823   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

preregistered = yes

Multivariate Meta-Analysis Model (k = 6; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 2 no reference   
sigma^2.2 0.0471 0.2169 4 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 5) = 20.7359, p-val = 0.0009  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0287 0.1169 0.2458 0.8059 -0.2004 0.2578   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

preregistered = no

Multivariate Meta-Analysis Model (k = 34; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0133 0.1155 7 no reference   
sigma^2.2 0.0007 0.0255 9 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 33) = 60.6830, p-val = 0.0023  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0442 0.0523 0.8449 0.3981 -0.0583 0.1466   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

preregistered = yes

No preregistered negative effects

preregistered = no

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

# 11. Beautiful plot

png   
 2

png   
 2

png   
 2

png   
 2

## 11.1 beautiful plot per article

articlestudy year in\_yi vi samplesize   
1 Bruns et al. (2018) / 9 2018 -0.00441 0.0053 252   
2 Cheung et al. (2019) / 18 2019 0.01743 0.0024 840   
3 Dranseika & Piasecki (2020) / 19 2020 0.03068 0.0109 184   
4 Grad et al. (2021) / 17 2021 -0.06255 0.0042 315   
5 Große-Hokamp & Weimann (2021) / 20 2021 0.21285 0.0335 120   
6 Hallez et al. (2021) / 21 2021 -0.27309 0.0631 64   
7 Kantorowicz Reznichenko (2021) / 22 2021 -0.27972 0.0055 370   
8 Leimstädtner et al. (2023) / 34 2023 -0.00714 0.0280 143   
9 Liu et al. (2023) / 35 2023 0.12691 0.0053 760   
10 Michaelsen et al. (2020) / 27 2020 0.13248 0.0057 702   
11 Michaelsen et al. (2021) / 28 2021 -0.18617 0.0097 415   
12 Michaelsen et al. (2021) / 29 2021 0.00686 0.0054 372   
13 Michaelsen et al. (2024) / 24 2021 -0.13673 0.0100 202   
14 Michaelsen et al. (2024) / 25 2021 0.01376 0.0050 398   
15 Michels et al. (2021) / 30 2021 -0.04109 0.0100 200   
16 Michels et al. (2023) / 38 2023 -0.04909 0.0100 201   
17 Paunov et al. (2018) / 10 2018 0.30575 0.0245 165   
18 Paunov et al. (2018) / 11 2018 0.42155 0.0259 158   
19 Paunov et al. (2018) / 12 2018 0.46888 0.0351 117   
20 Paunov et al. (2019) / 13 2019 0.72213 0.0134 107   
21 Paunov et al. (2020) / 16 2020 0.95988 0.0341 131   
22 Paunov et al. (2022) / 36 2022 0.60865 0.0170 130   
23 Paunov et al. (2022) / 37 2022 0.40367 0.0184 112   
24 Steffel et al. (2016) / 4 2016 0.06160 0.0095 211   
25 Steffel et al. (2016) / 5 2016 0.62867 0.0404 104   
26 Steffel et al. (2016) / 6 2016 0.01073 0.0051 195   
27 Steffel et al. (2016) / 7 2016 0.01713 0.0049 204   
28 van Rookhuijzen et al. (2023) / 32 2023 0.27133 0.0047 857   
29 van Rookhuijzen et al. (2023) / 33 2023 0.13207 0.0048 840   
30 Wachner et al. (2020) / 14 2020 0.13272 0.0048 420   
31 Zhuo et al. (2022) / 31 2022 0.01826 0.0033 1219   
 outcomesubtype   
1 Choice   
2 Choice   
3 Choice   
4 Choice   
5 Choice   
6 Choice   
7 Choice   
8 Choice   
9 Choice   
10 Choice   
11 Choice   
12 Choice   
13 Choice   
14 Choice   
15 Choice   
16 Choice   
17 Choice   
18 Choice   
19 Choice   
20 Choice   
21 Choice   
22 Choice   
23 Choice   
24 Choice   
25 Choice   
26 Choice   
27 Choice   
28 Choice   
29 Choice   
30 Choice   
31 Choice

Equal-Effects Model (k = 31)  
  
I^2 (total heterogeneity / total variability): 80.97%  
H^2 (total variability / sampling variability): 5.26  
  
Test for Heterogeneity:  
Q(df = 30) = 157.6736, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0682 0.0155 4.3914 <.0001 0.0378 0.0987 \*\*\*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

png   
 2

articlestudy year in\_yi vi samplesize   
1 Hallez et al. (2021) / 21 2021 0.11852 0.0313 64   
2 Liu et al. (2022) / 23 2022 -0.13202 0.0018 545   
3 Liu et al. (2023) / 35 2023 0.16792 0.0018 760   
4 Michaelsen et al. (2020) / 26 2020 0.06879 0.0046 289   
5 Michaelsen et al. (2020) / 27 2020 -0.21555 0.0057 702   
6 Michaelsen et al. (2021) / 28 2021 -0.06422 0.0096 415   
7 Michaelsen et al. (2021) / 29 2021 0.34693 0.0109 373   
8 Michaelsen et al. (2024) / 24 2021 -0.11155 0.0050 202   
9 Michaelsen et al. (2024) / 25 2021 -0.02479 0.0025 398   
10 Paunov et al. (2018) / 10 2018 0.13751 0.0243 165   
11 Steffel et al. (2016) / 6 2016 0.10289 0.0052 195   
12 Steffel et al. (2016) / 7 2016 0.20609 0.0025 204   
13 Wachner et al. (2020) / 14 2020 0.00225 0.0023 436   
 outcomesubtype   
1 Intention   
2 Source Perception   
3 Nudge Reaction   
4 Nudge Perception   
5 Nudge Perception   
6 Source Perception   
7 Source Perception   
8 Nudge Reaction   
9 Nudge Reaction   
10 Source Perception   
11 Nudge Perception   
12 Source Perception   
13 Nudge Reaction

Equal-Effects Model (k = 13)  
  
I^2 (total heterogeneity / total variability): 81.80%  
H^2 (total variability / sampling variability): 5.50  
  
Test for Heterogeneity:  
Q(df = 12) = 65.9513, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0317 0.0171 1.8484 0.0645 -0.0019 0.0653 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

png   
 2

articlestudy year in\_yi vi samplesize   
1 Bruns et al. (2018) / 9 2018 0.0749 0.0027 252   
2 Liu et al. (2022) / 23 2022 -0.0891 0.0073 545   
3 Liu et al. (2023) / 35 2023 0.0465 0.0053 760   
4 Michaelsen et al. (2024) / 24 2021 0.0735 0.0099 202   
5 Michaelsen et al. (2024) / 25 2021 0.0584 0.0025 398   
6 Paunov et al. (2018) / 11 2018 -0.2798 0.0256 158   
7 Wachner et al. (2020) / 14 2020 0.1377 0.0046 436

Equal-Effects Model (k = 7)  
  
I^2 (total heterogeneity / total variability): 32.44%  
H^2 (total variability / sampling variability): 1.48  
  
Test for Heterogeneity:  
Q(df = 6) = 8.8807, p-val = 0.1804  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0511 0.0262 1.9525 0.0509 -0.0002 0.1025 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

png   
 2

articlestudy year in\_yi vi samplesize   
1 Michaelsen et al. (2020) / 26 2020 0.1170 0.0046 289   
2 Michaelsen et al. (2020) / 27 2020 0.0441 0.0029 702

Equal-Effects Model (k = 2)  
  
I^2 (total heterogeneity / total variability): 0.00%  
H^2 (total variability / sampling variability): 0.71  
  
Test for Heterogeneity:  
Q(df = 1) = 0.7106, p-val = 0.3993  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0719 0.0420 1.7114 0.0870 -0.0104 0.1542 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

png   
 2

# 12. Complete Plot

Equal-Effects Model (k = 22)  
  
I^2 (total heterogeneity / total variability): 72.56%  
H^2 (total variability / sampling variability): 3.64  
  
Test for Heterogeneity:  
Q(df = 21) = 76.5290, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0411 0.0136 3.0283 0.0025 0.0145 0.0677 \*\*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

png   
 2

Summary Table

| articlestudy | year | in\_yi | vi | samplesize |
| --- | --- | --- | --- | --- |
| Hallez et al. (2021) / 21 | 2021 | 0.119 | 0.031 | 64 |
| Liu et al. (2022) / 23 | 2022 | -0.132 | 0.002 | 545 |
| Liu et al. (2023) / 35 | 2023 | 0.168 | 0.002 | 760 |
| Michaelsen et al. (2020) / 26 | 2020 | 0.069 | 0.005 | 289 |
| Michaelsen et al. (2020) / 27 | 2020 | -0.216 | 0.006 | 702 |
| Michaelsen et al. (2021) / 28 | 2021 | -0.064 | 0.010 | 415 |
| Michaelsen et al. (2021) / 29 | 2021 | 0.347 | 0.011 | 373 |
| Michaelsen et al. (2024) / 24 | 2021 | -0.112 | 0.005 | 202 |
| Michaelsen et al. (2024) / 25 | 2021 | -0.025 | 0.003 | 398 |
| Paunov et al. (2018) / 10 | 2018 | 0.138 | 0.024 | 165 |
| Steffel et al. (2016) / 6 | 2016 | 0.103 | 0.005 | 195 |
| Steffel et al. (2016) / 7 | 2016 | 0.206 | 0.002 | 204 |
| Wachner et al. (2020) / 14 | 2020 | 0.002 | 0.002 | 436 |
| Michaelsen et al. (2020) / 26 | 2020 | 0.117 | 0.005 | 289 |
| Michaelsen et al. (2020) / 26 | 2020 | 0.044 | 0.003 | 702 |
| Bruns et al. (2018) / 9 | 2018 | 0.075 | 0.003 | 252 |
| Liu et al. (2022) / 23 | 2022 | -0.089 | 0.007 | 545 |
| Liu et al. (2023) / 35 | 2023 | 0.046 | 0.005 | 760 |
| Michaelsen et al. (2024) / 24 | 2021 | 0.074 | 0.010 | 202 |
| Michaelsen et al. (2024) / 25 | 2021 | 0.058 | 0.003 | 398 |
| Paunov et al. (2018) / 11 | 2018 | -0.280 | 0.026 | 158 |
| Wachner et al. (2020) / 14 | 2020 | 0.138 | 0.005 | 436 |

## 12.1 RVE

Coef. Estimate SE d.f. Lower 95% CI Upper 95% CI  
 intrcpt 0.036 0.0423 7.05 -0.0639 0.136

Coef. Estimate SE d.f. Lower 95% CI Upper 95% CI  
 intrcpt 0.0355 0.0425 6.92 -0.0654 0.136

## 12.2 Outcome

### 12.2.1 Behav

Multivariate Meta-Analysis Model (k = 55; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0515 0.2270 22 no reference   
sigma^2.2 0.0039 0.0625 31 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 54) = 208.7657, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1129 0.0542 2.0810 0.0374 0.0066 0.2192 \*   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for plus

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 9 no reference   
sigma^2.2 0.0150 0.1227 13 no reference/studyID   
  
Test for Residual Heterogeneity:  
QE(df = 38) = 68.8144, p-val = 0.0016  
  
Test of Moderators (coefficient 2):  
QM(df = 1) = 3.0823, p-val = 0.0791  
  
Model Results:  
  
 estimate se zval pval ci.lb ci.ub   
intrcpt -0.0581 0.0673 -0.8636 0.3878 -0.1901 0.0738   
mods 0.0275 0.0157 1.7557 0.0791 -0.0032 0.0582 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 12.2.2 nudge reaction

behav

plus

Multivariate Meta-Analysis Model (k = 9; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0166 0.1290 4 no reference   
sigma^2.2 0.0000 0.0000 5 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 8) = 17.7734, p-val = 0.0230  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0035 0.0724 0.0487 0.9612 -0.1384 0.1455   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 12.2.3 Nudge perception

no behav

Multivariate Meta-Analysis Model (k = 13; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0080 0.0896 3 no reference   
sigma^2.2 0.0155 0.1243 5 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 12) = 22.9984, p-val = 0.0277  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0009 0.0840 0.0110 0.9912 -0.1637 0.1656   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

0 obs

### 12.2.4 choice

only behav

for minus

0 obs

### 12.2.5 choice perception

Multivariate Meta-Analysis Model (k = 6; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 2 no reference   
sigma^2.2 0.0067 0.0816 3 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 5) = 4.8474, p-val = 0.4348  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0757 0.0653 -1.1599 0.2461 -0.2037 0.0522   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

0 obs

### 12.2.6 sourceperc

Multivariate Meta-Analysis Model (k = 9; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 5 no reference   
sigma^2.2 0.0213 0.1460 6 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 8) = 19.4025, p-val = 0.0128  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.1280 0.0714 1.7922 0.0731 -0.0120 0.2681 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

0 obs ### intention

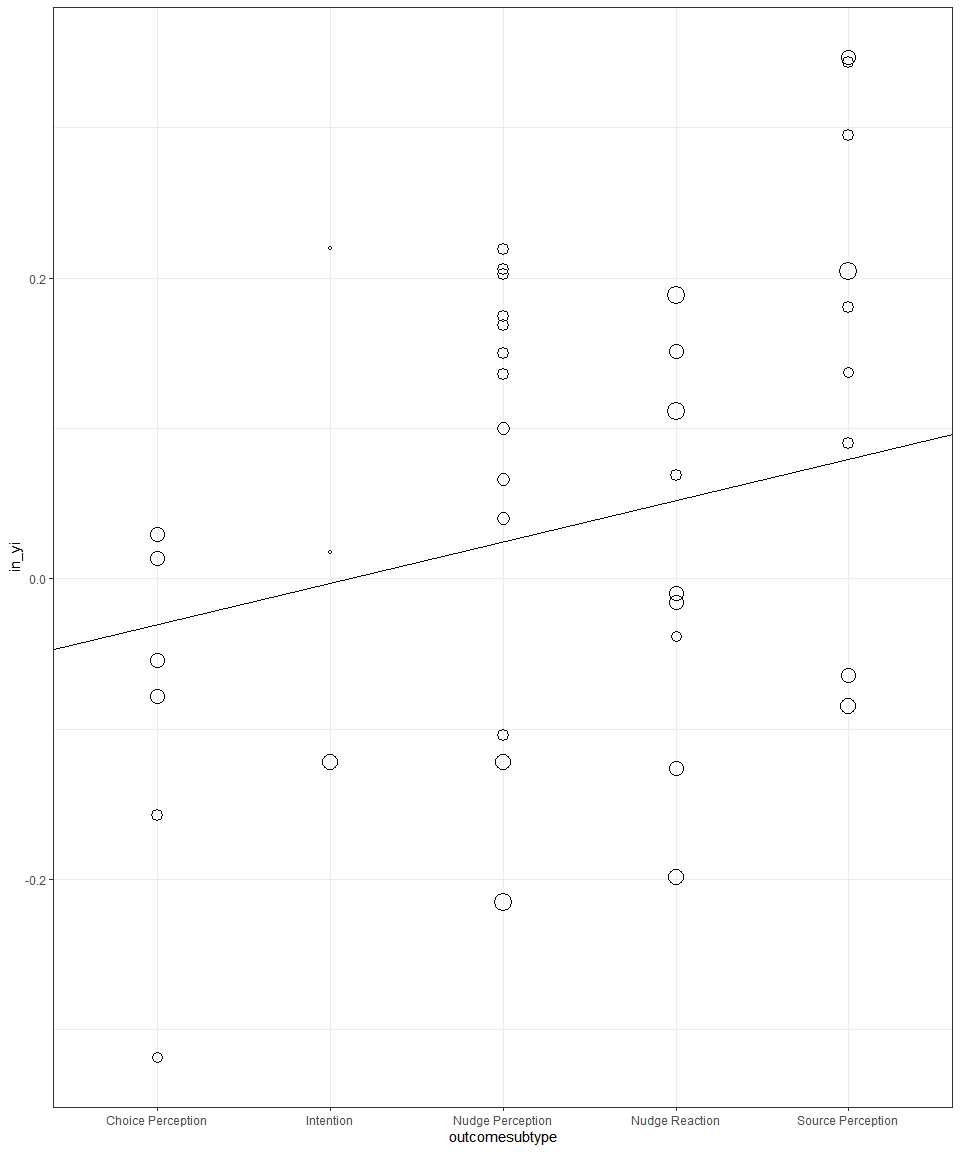
Multivariate Meta-Analysis Model (k = 3; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0048 0.0691 2 no reference   
sigma^2.2 0.0048 0.0691 2 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 2) = 1.8202, p-val = 0.4025  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 -0.0519 0.1094 -0.4744 0.6352 -0.2663 0.1625   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

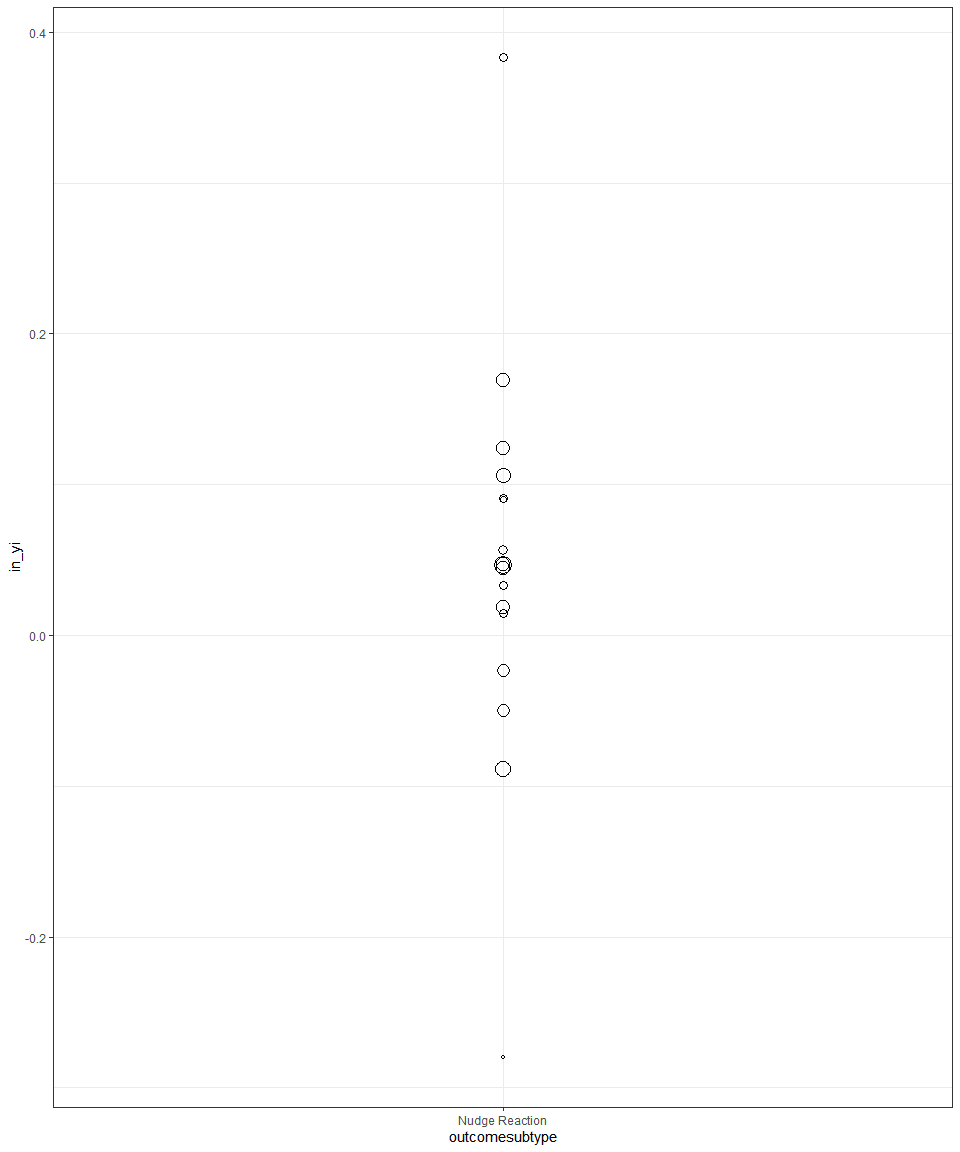
0 obs ### others perception

k = 1, d = 0.01 [-0.11, 0.30]

### 12.2.7 figure outcome type



for minus



## 12.3 Outcome type

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0002 0.0126 9 no reference   
sigma^2.2 0.0179 0.1339 13 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 39) = 81.9619, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0373 0.0434 0.8602 0.3897 -0.0477 0.1224   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 40; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0002 0.0126 9 no reference   
sigma^2.2 0.0179 0.1339 13 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 39) = 81.9619, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0373 0.0434 0.8602 0.3897 -0.0477 0.1224   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

for minus

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

outcome choice

outcome choice is empty

self reported

Multivariate Meta-Analysis Model (k = 17; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 16) = 16.6206, p-val = 0.4105  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0460 0.0262 1.7567 0.0790 -0.0053 0.0974 .   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

### 12.3.1 Nudge Speciality

Multivariate Meta-Analysis Model (k = 30; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 9 no reference   
sigma^2.2 0.0194 0.1393 13 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 29) = 69.8120, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0246 0.0456 0.5400 0.5892 -0.0648 0.1141   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 30; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0000 0.0000 9 no reference   
sigma^2.2 0.0194 0.1393 13 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 29) = 69.8120, p-val < .0001  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0246 0.0456 0.5400 0.5892 -0.0648 0.1141   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

No opt-in and no active: 64 studies - hedge’s g = 0.08 [-0.03, 0.19]

for minus :

Multivariate Meta-Analysis Model (k = 14; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0005 0.0234 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 13) = 16.5351, p-val = 0.2214  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0457 0.0307 1.4873 0.1369 -0.0145 0.1059   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

Multivariate Meta-Analysis Model (k = 14; method: REML)  
  
Variance Components:  
  
 estim sqrt nlvls fixed factor   
sigma^2.1 0.0005 0.0234 6 no reference   
sigma^2.2 0.0000 0.0000 7 no reference/studyID   
  
Test for Heterogeneity:  
Q(df = 13) = 16.5351, p-val = 0.2214  
  
Model Results:  
  
estimate se zval pval ci.lb ci.ub   
 0.0457 0.0307 1.4873 0.1369 -0.0145 0.1059   
  
---  
Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1

No opt-in and no active: 13 studies - hedge’s g = 0.03 [-0.06, 0.12]

```{r end}