



# META MAR

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Table.1 summary of studies

	Study	N1	Mean1	Sd1	N2	Mean2	Sd2	Moderator	subgroup	Cohen's d	CorrectionFactor	Hedges'g (SMD)	SEg	95%CI-Lower	95%CI-Upper	weight(%)-fixed model	weight(%)-random model
1	A	23	30	2.50	23	32	3.3	24	subgroup1	0.683187	0.982857	0.671475	0.298164	0.087074	1.255876	3.063359	9.703777
2	B	47	33	3.34	47	35	3.1	22	subgroup1	0.620687	0.991826	0.615613	0.209466	0.205059	1.026168	6.206951	9.982981
3	C	44	39	2.30	44	41	4.1	33	subgroup1	0.601657	0.991254	0.596395	0.216064	0.172908	1.019881	5.833654	9.965102
4	D	78	47	4.10	78	55	2.5	40	subgroup2	2.356000	0.995122	2.344508	0.207386	1.938030	2.750985	6.332079	9.988515
5	F	311	26	1.40	311	33	6.1	51	subgroup2	1.581744	0.998790	1.579830	0.091769	1.399962	1.759698	32.337834	10.214405
6	G	144	75	2.60	144	80	4.2	41	subgroup3	1.431496	0.997375	1.427739	0.131738	1.169531	1.685946	15.692129	10.155089
7	H	79	55	2.20	79	66	4.3	31	subgroup1	3.220700	0.995185	3.205191	0.239966	2.734859	3.675524	4.729433	9.896295
8	I	59	26	6.60	59	34	2.1	29	subgroup1	1.633504	0.993521	1.622919	0.211237	1.208896	2.036943	6.103360	9.978232
9	J	214	98	1.80	214	110	2.5	38	subgroup1	5.508878	0.998238	5.499173	0.211284	5.085056	5.913291	6.100603	9.978104
10	K	110	72	5.10	110	77	5.6	42	subgroup2	0.933561	0.996556	0.930345	0.141506	0.652994	1.207697	13.600598	10.137501

Table.2 Summary of results - fixed and random effect models

	Hedges'g (SMD)	SEg	95%CI	z score	p value	Heterogeneity (I <sup>2</sup> )
Fixed Effect Model	1.69	0.05	[1.59,1.79]	32.377	0.0	98.1%
Random Effect Model	1.85	0.395	[1.074,2.623]	4.677	3e-06	98.0%, T <sup>2</sup> =1.52

Fig.1 Forestplot - fixed and random effect models

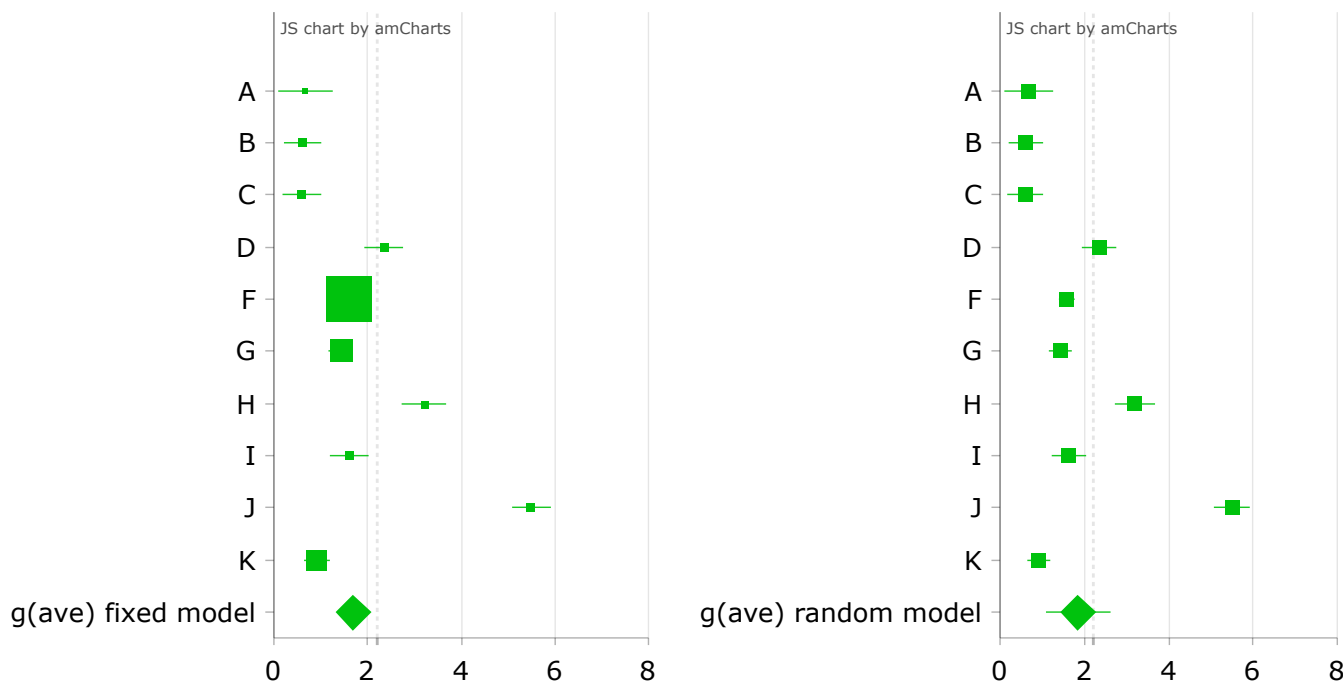
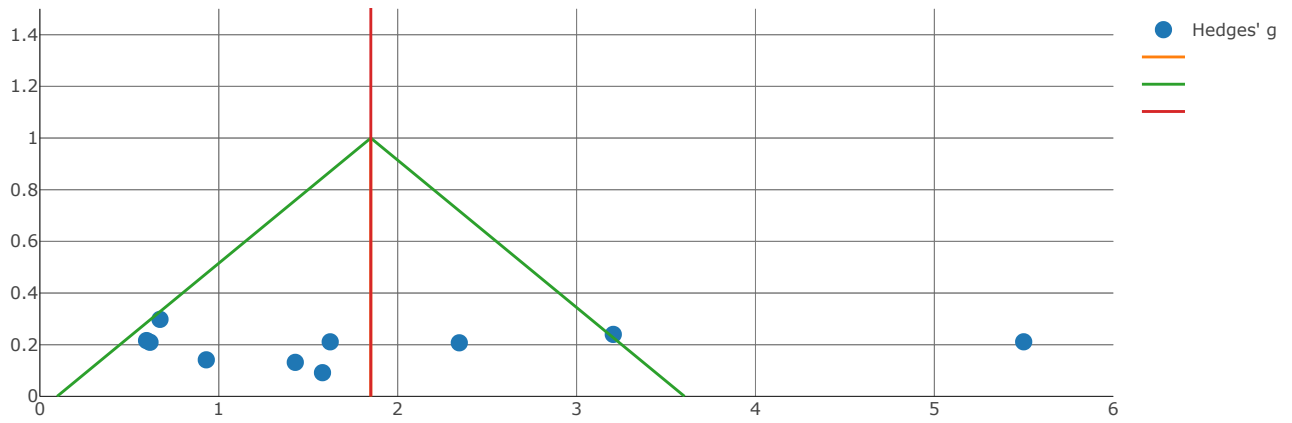


Fig.2 Funnel Plot - fixed and random effect models

Funnel Plot random model (Y: Standard Error (SEg) - X: Effect Size (g))



Funnel Plot fixed model (Y: Standard Error (SEg) - X: Effect Size (g))

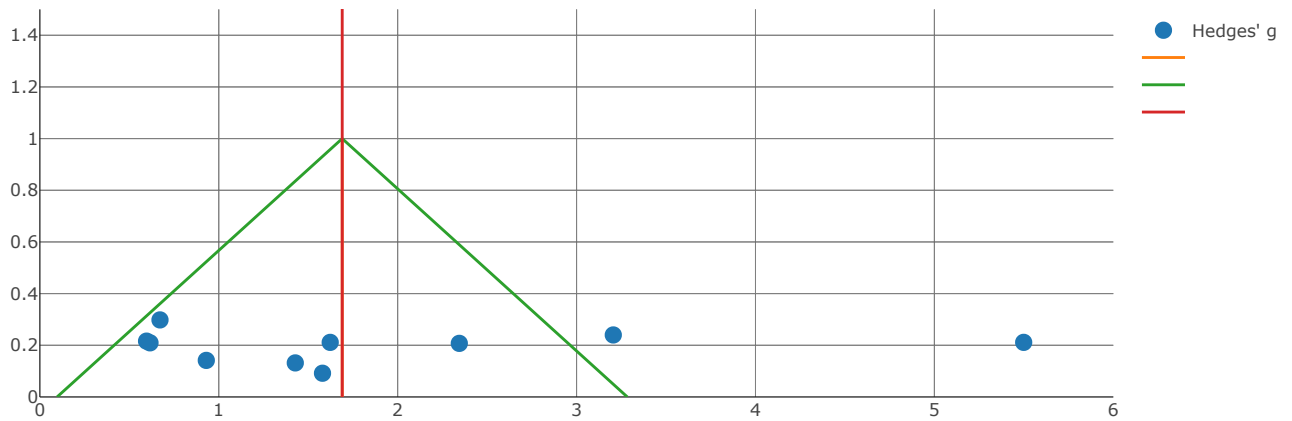


Table.3 Fail-N Safe

Bias of the analysis regarding the file-drawer problem:

Fail-N Safe, the number of studies (or samples) with a null effect ( $g = 0$ ) needed to bring the calculated significance level of the pooled effect ( $p$  value  $< 0.0001$ ) near the critical significance level ( $p$  value = 0.05), is calculated as follows:

References:

- \* Rosenberg, M. S. (2005). The file-drawer problem revisited: a general weighted method for calculating fail-safe numbers in meta-analysis. *Evolution*, 59(2), 464-468.
- \* Rosenthal, R. (1979). The file drawer problem and tolerance for null results. *Psychological bulletin*, 86(3), 638.

	Rosenthal (1979)	Rosenberg (2005)
	$t_c(\alpha = 0.05, df = 10) = 1.812$	$Z_c(\alpha = 0.05) = 1.645$
<b>Fail-N Safe</b>	3756.07	3181.01

Table.4 Results of Meta regression

OLS Regression Results

Dep. Variable: y R-squared: 0.050

Model: OLS Adj. R-squared: -0.069

Method: Least Squares F-statistic: 0.4228

Date: Tue, 28 Apr 2020 Prob (F-statistic): 0.534

Time: 08:40:34 Log-Likelihood: -17.649

No. Observations: 10 AIC: 39.30

Df Residuals: 8 BIC: 39.90

Df Model: 1

Covariance Type: nonrobust

	coef	std err	t	P> t	[0.025	0.975]
const	0.5062	2.125	0.238	0.818	-4.395	5.407
Moderator	0.0383	0.059	0.650	0.534	-0.097	0.174

Omnibus: 9.889 Durbin-Watson: 2.280

Prob(Omnibus): 0.007 Jarque-Bera (JB): 4.420

Skew: 1.515 Prob(JB): 0.110

Kurtosis: 4.194 Cond. No. 154.

## Warnings:

[1] Standard Errors assume that the covariance matrix of the errors is correctly specified.

Table.5 Results of Subgroup Analysis - fixed and random effect models

*fixed model*

	k	Hedges's g	SEg	95%CI lower	95%CI upper	z score	p value	Heterogeneity %	df
subgroup1	6	2.121569	0.092199	1.940860	2.302279	23.010814	3.632910e-117	0.987706	5
subgroup2	3	1.503470	0.072181	1.361994	1.644945	20.829051	2.360932e-96	0.940375	2
subgroup3	1	1.427739	0.131738	1.169531	1.685946	10.837672	2.282038e-27	0.000000	0
total	10	1.689609	0.052186	1.587324	1.791893	32.376697	5.842358e-230	0.980964	9

*random model*

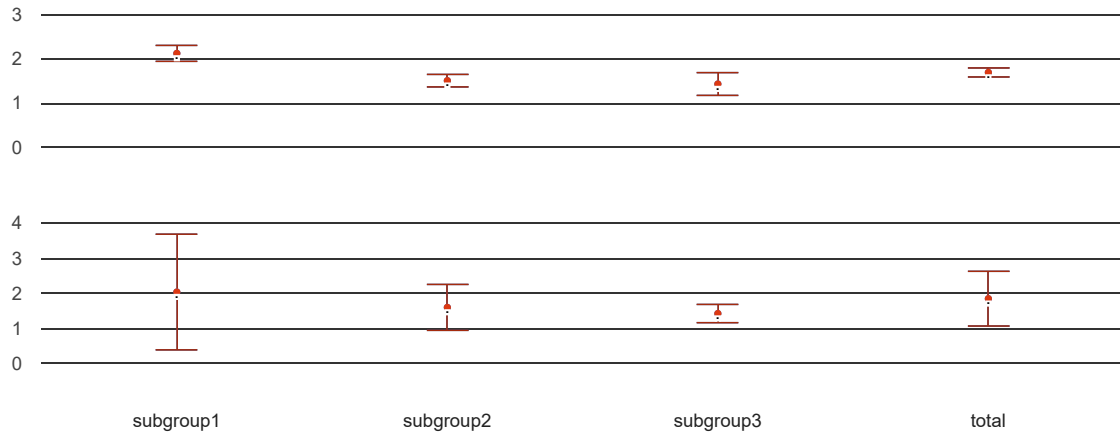
	k	Hedges's g	SEg	95%CI lower	95%CI upper	z score	p value	Heterogeneity %	df
subgroup1	6	2.036985	0.835576	0.399257	3.674714	2.437822	1.477604e-02	0.987706	5
subgroup2	3	1.601711	0.331891	0.951204	2.252218	4.826013	1.392938e-06	0.940375	2
subgroup3	1	1.427739	0.131738	1.169531	1.685946	10.837672	2.282038e-27	0.000000	0
total	10	1.848747	0.395247	1.074064	2.623430	4.677453	2.904607e-06	0.980964	9

## Results of ANOVA for subgroups

F value = 0.09313109449240511, p value = 0.9121839700696838

Fig.4 Intervals of effect sizes for subgroups - fixed and random effect models

*fixed model*



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