

Appendix for Stanley, T.D. and Doucouliagos, H(C.) 2015. Neither fixed nor random: Weighted least squares meta-analysis. *Statistics in Medicine*.

**Appendix Table I: Coverage of Standardized Mean Differences, (d=.2)**

m: Meta-analysis Sample Size	Random Heterogeneity ( $\sigma_h$ )*	$I^2$ †	FEMA	REMA	WLS
5	0	.1341	.9487	.9605	.9468
5	6.25	.2115	.8710	.9167	.9305
5	12.5	.3866	.6899	.8534	.9070
5	25	.6735	.4403	.8211	.8855
5	50	.8876	.2400	.8084	.8770
5	100	.9654	.1327	.7821	.8812
5	200	.9887	.0781	.7563	.8975
10	0	.1108	.9527	.9647	.9510
10	6.25	.2244	.8736	.9244	.9277
10	12.5	.4741	.6941	.8949	.8975
10	25	.7812	.4432	.8864	.8727
10	50	.9335	.2424	.8759	.8637
10	100	.9804	.1370	.8599	.8751
10	200	.9931	.0938	.8251	.8916
20	0	.0889	.9517	.9609	.9513
20	6.25	.2300	.8699	.9299	.9253
20	12.5	.5324	.7000	.9208	.8976
20	25	.8219	.4361	.9176	.8708
20	50	.9476	.2504	.9113	.8649
20	100	.9839	.1471	.8981	.8793
20	200	.9941	.0938	.8659	.8987
40	0	.0649	.9507	.9591	.9495
40	6.25	.2377	.8726	.9358	.9234
40	12.5	.5656	.6857	.9304	.8861
40	25	.8385	.4413	.9319	.8703
40	50	.9523	.2420	.9228	.8664
40	100	.9853	.1532	.9152	.8783
40	200	.9944	.0963	.8724	.8978
80	0	.0499	.9533	.9609	.9528
80	6.25	.2467	.8684	.9398	.9236
80	12.5	.5795	.6981	.9412	.8945
80	25	.8469	.4423	.9439	.8703
80	50	.9545	.2476	.9362	.8660
80	100	.9859	.1413	.9257	.8739
80	200	.9945	.0895	.8769	.8898
Average			.4905	.9008	.8982
Mean Absolute Deviation from 0.95			.4599	.0524	.0521

\*  $\sigma_h$  is the standard deviation of the random heterogeneity.

†  $I^2$  is the proportion of the total variation among the empirical effects that is attributable to heterogeneity [22]. FEMA, REMA and WLS denote the fixed-effect, random-effects and unrestricted weighted least squares meta-analysis averages, respectively.

**Appendix Table II: Bias and MSE with 50% Publication Bias, Standardized Mean Differences, (d=.2)**

m: Meta-analysis Sample Size	Random Heterogeneity ( $\sigma_h^*$ )	REMA Bias	WLS Bias	REMA MSE	WLS MSE
10	0	.0403	.0338	.0024	.0019
10	6.25	.0510	.0413	.0038	.0030
10	12.5	.0743	.0577	.0077	.0061
10	25	.1265	.0985	.0216	.0182
10	50	.2269	.1838	.0698	.0629
10	100	.4233	.3394	.2474	.2092
10	200	.8341	.6049	.9610	.6251
20	0	.0394	.0337	.0020	.0015
20	6.25	.0507	.0411	.0032	.0023
20	12.5	.0750	.0574	.0067	.0047
20	25	.1292	.0993	.0194	.0140
20	50	.2286	.1831	.0613	.0481
20	100	.4230	.3342	.2122	.1569
20	200	.8229	.5778	.8083	.4570
40	0	.0389	.0337	.0017	.0013
40	6.25	.0507	.0409	.0029	.0020
40	12.5	.0755	.0574	.0062	.0040
40	25	.1293	.0983	.0181	.0118
40	50	.2294	.1834	.0572	.0409
40	100	.4277	.3350	.2001	.1352
40	200	.8255	.5713	.7498	.3862
80	0	.0386	.0338	.0016	.0012
80	6.25	.0510	.0410	.0028	.0018
80	12.5	.0765	.0577	.0061	.0037
80	25	.1294	.0986	.0174	.0108
80	50	.2295	.1822	.0549	.0367
80	100	.4285	.3350	.1923	.1235
80	200	.8231	.5652	.7116	.3483
Average Bias or MSE		.2535	.1900	.1589	.0971

\*  $\sigma_h$  is the standard deviation of the random heterogeneity.

**Appendix Table III: Coverage of Regression Estimates (True effect,  $\alpha_I = 1$ )**

m: Meta-analysis Sample Size	Random Heterogeneity ( $\sigma_h$ )*	$I^2$ †	FEMA	REMA	WLS
5	0	.1411	.9536	.9654	.9534
5	.125	.2395	.8449	.9019	.9245
5	.25	.4508	.6490	.8507	.9080
5	.50	.7263	.4047	.8218	.8893
5	1.0	.8969	.2367	.7941	.8890
5	2.0	.9589	.1538	.7610	.9061
5	4.0	.9791	.1269	.7106	.9223
10	0	.1176	.9515	.9633	.9528
10	.125	.2669	.8421	.9152	.9186
10	.25	.5408	.6505	.8926	.8965
10	.50	.8176	.4185	.8823	.8753
10	1.0	.9357	.2663	.8674	.8886
10	2.0	.9728	.1935	.8208	.9065
10	4.0	.9845	.1677	.7473	.9197
20	0	.0940	.9504	.9621	.9485
20	.125	.2874	.8454	.9276	.9219
20	.25	.6031	.6464	.9201	.8952
20	.50	.8505	.4213	.9208	.8865
20	1.0	.9463	.2647	.8958	.8885
20	2.0	.9762	.2043	.8480	.9172
20	4.0	.9859	.1669	.7647	.9381
40	0	.0765	.9464	.9574	.9502
40	.125	.3016	.8562	.9376	.9245
40	.25	.6335	.6523	.9348	.8946
40	.50	.8630	.4254	.9278	.8806
40	1.0	.9503	.2792	.9141	.8959
40	2.0	.9772	.2081	.8642	.9275
40	4.0	.9861	.1662	.7696	.9370
80	0	.0587	.9470	.9565	.9498
80	.125	.3196	.8469	.9429	.9224
80	.25	.6465	.6549	.9422	.8935
80	.50	.8688	.4269	.9367	.8852
80	1.0	.9518	.2845	.9155	.9002
80	2.0	.9776	.2044	.8638	.9158
80	4.0	.9863	.1710	.7778	.9431
Average			.4980	.8793	.9133

\*  $\sigma_h$  is the standard deviation of the random heterogeneity.

†  $I^2$  is the proportion of the total variation among the empirical effects that is attributable to heterogeneity [22]. FEMA, REMA and WLS denote the fixed-effect, random-effects and unrestricted weighted least squares meta-analysis averages, respectively.