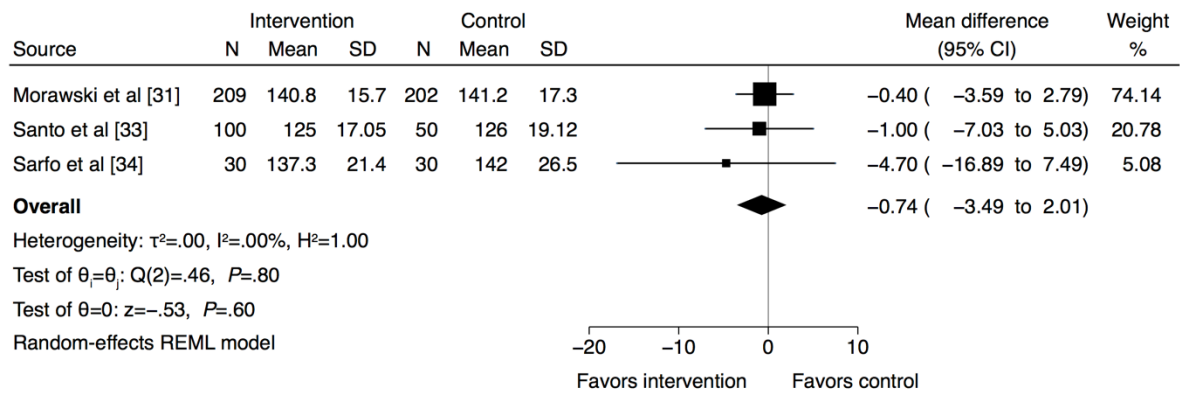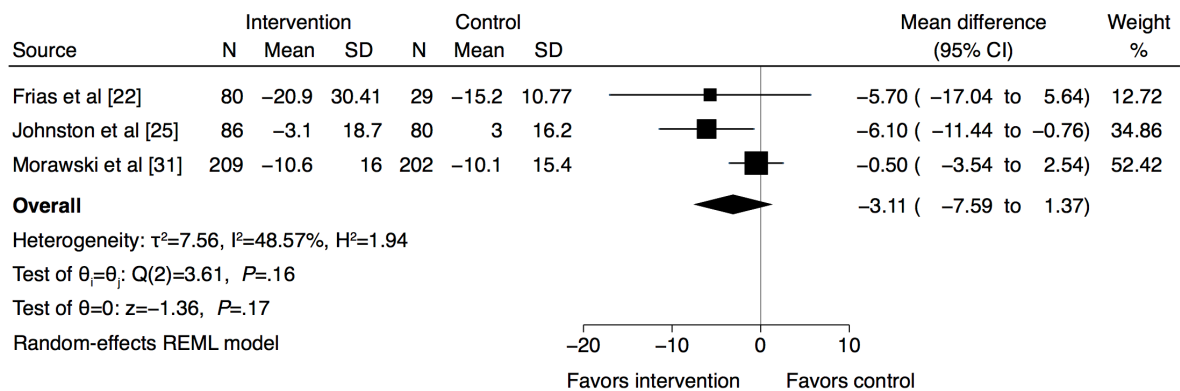**Multimedia Appendix 4. Meta-analysis and forest plot of the effect of app-based interventions on clinical outcomes.**

Figure 1. Meta-analysis and forest plot of the effect of app-based interventions on systolic blood pressure (SBP), using mean values (A), using mean change values (B). REML: restricted maximum likelihood.

(A)

Source	Intervention			Control				Mean difference (95% CI)	Weight %
	N	Mean	SD	N	Mean	SD			
Morawski et al [31]	209	140.8	15.7	202	141.2	17.3		−0.40 (−3.59 to 2.79)	74.14
Santo et al [33]	100	125	17.05	50	126	19.12		−1.00 (−7.03 to 5.03)	20.78
Sarfo et al [34]	30	137.3	21.4	30	142	26.5		−4.70 (−16.89 to 7.49)	5.08
Overall								−0.74 (−3.49 to 2.01)	

Heterogeneity: τ^2=.00, I^2=.00%, H^2=1.00
Test of $\theta_i=\theta_j$: Q(2)=.46, P=.80
Test of θ=0: z=−.53, P=.60
Random-effects REML model

-20   -10   0   10
Favors intervention   Favors control

(B)

Source	Intervention			Control				Mean difference (95% CI)	Weight %
	N	Mean	SD	N	Mean	SD			
Frias et al [22]	80	−20.9	30.41	29	−15.2	10.77		−5.70 (−17.04 to 5.64)	12.72
Johnston et al [25]	86	−3.1	18.7	80	3	16.2		−6.10 (−11.44 to −0.76)	34.86
Morawski et al [31]	209	−10.6	16	202	−10.1	15.4		−0.50 (−3.54 to 2.54)	52.42
Overall								−3.11 (−7.59 to 1.37)	

Heterogeneity: τ^2=7.56, I^2=48.57%, H^2=1.94
Test of $\theta_i=\theta_j$: Q(2)=3.61, P=.16
Test of θ=0: z=−1.36, P=.17
Random-effects REML model
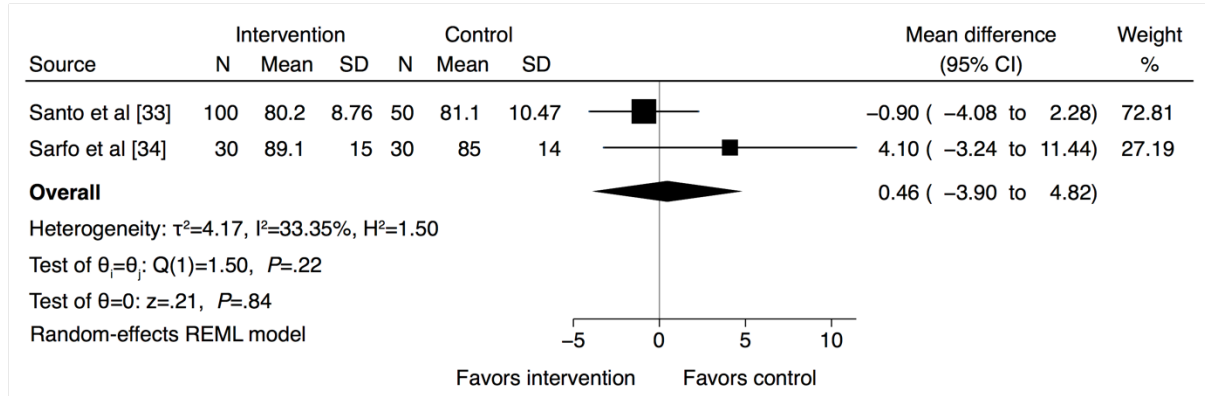
-20   -10   0   10
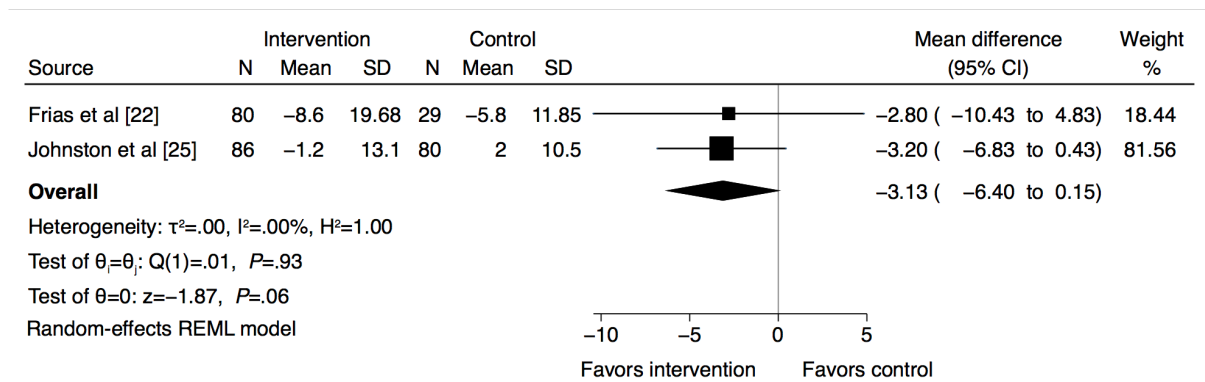Favors intervention   Favors control

Figure 2. Meta-analysis and forest plot of the effect of app-based interventions on diastolic blood pressure (DBP), using mean values (A), using mean change values (B). REML: restricted maximum likelihood.

(A)

Source	Intervention N	Mean	SD	Control N	Mean	SD		Mean difference (95% CI)	Weight %
Santo et al [33]	100	80.2	8.76	50	81.1	10.47		−0.90 (−4.08 to 2.28)	72.81
Sarfo et al [34]	30	89.1	15	30	85	14		4.10 (−3.24 to 11.44)	27.19
Overall								0.46 (−3.90 to 4.82)	

Heterogeneity: τ^2=4.17, I^2=33.35%, H^2=1.50

Test of $\theta_i=\theta_j$: Q(1)=1.50, *P*=.22

Test of θ=0: z=.21, *P*=.84

Random-effects REML model

−5   0   5   10

Favors intervention   Favors control

(B)

Source	Intervention N	Mean	SD	Control N	Mean	SD		Mean difference (95% CI)	Weight %
Frias et al [22]	80	−8.6	19.68	29	−5.8	11.85		−2.80 (−10.43 to 4.83)	18.44
Johnston et al [25]	86	−1.2	13.1	80	2	10.5		−3.20 (−6.83 to 0.43)	81.56
Overall								−3.13 (−6.40 to 0.15)	

Heterogeneity: τ^2=.00, I^2=.00%, H^2=1.00

Test of $\theta_i=\theta_j$: Q(1)=.01, *P*=.93

Test of θ=0: z=−1.87, *P*=.06

Random-effects REML model
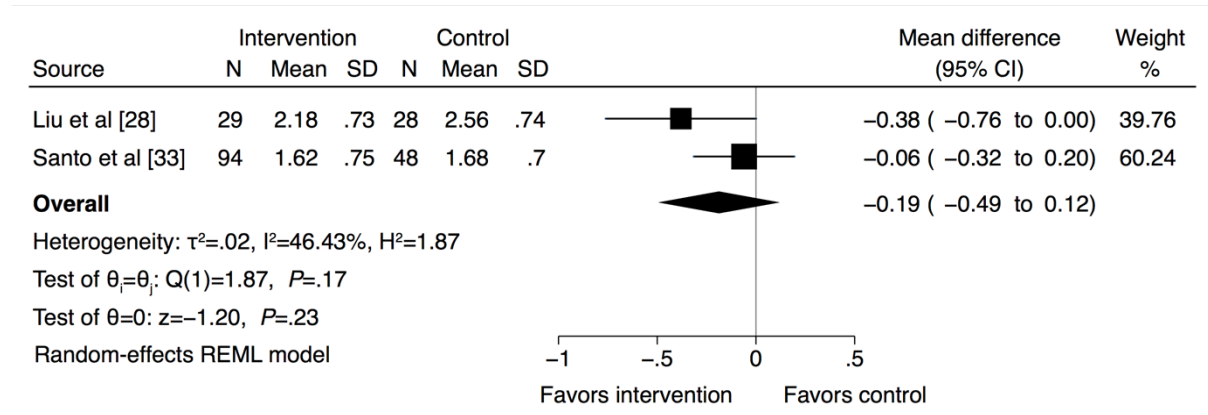
−10   −5   0   5

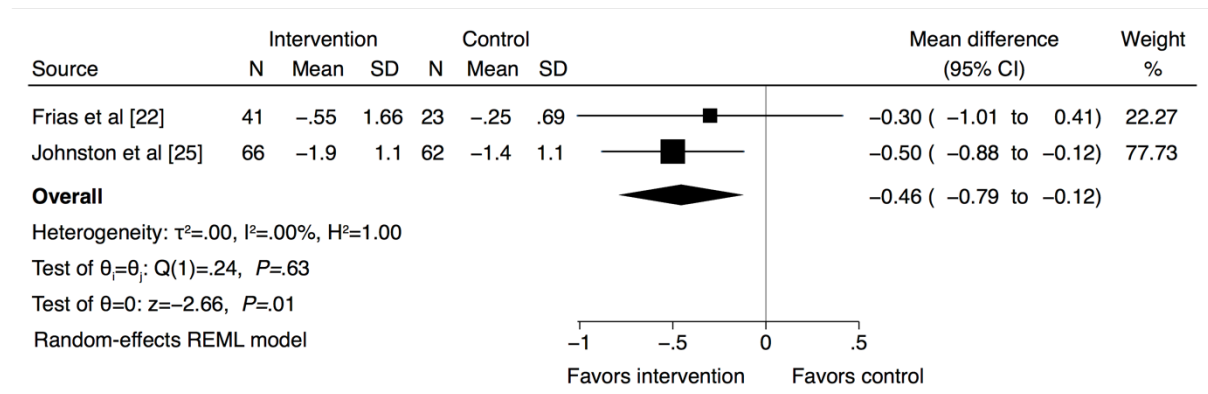Favors intervention   Favors control

Figure 3. Meta-analysis and forest plot of the effect of app-based interventions on low-density lipoprotein cholesterol (LDL-C), using mean values (A), using mean change values (B). REML: restricted maximum likelihood.

(A)

Source	Intervention N	Mean	SD	Control N	Mean	SD		Mean difference (95% CI)	Weight %
Liu et al [28]	29	2.18	.73	28	2.56	.74		−0.38 (−0.76 to 0.00)	39.76
Santo et al [33]	94	1.62	.75	48	1.68	.7		−0.06 (−0.32 to 0.20)	60.24
Overall								−0.19 (−0.49 to 0.12)	

Heterogeneity: τ^2=.02, I^2=46.43%, H^2=1.87
Test of $\theta_i=\theta_j$: Q(1)=1.87, P=.17
Test of θ=0: z=−1.20, P=.23
Random-effects REML model

−1　−.5　0　.5
Favors intervention　　Favors control

(B)

Source	Intervention N	Mean	SD	Control N	Mean	SD		Mean difference (95% CI)	Weight %
Frias et al [22]	41	−.55	1.66	23	−.25	.69		−0.30 (−1.01 to 0.41)	22.27
Johnston et al [25]	66	−1.9	1.1	62	−1.4	1.1		−0.50 (−0.88 to −0.12)	77.73
Overall								−0.46 (−0.79 to −0.12)	

Heterogeneity: τ^2=.00, I^2=.00%, H^2=1.00
Test of $\theta_i=\theta_j$: Q(1)=.24, P=.63
Test of θ=0: z=−2.66, P=.01
Random-effects REML model

−1　−.5　0　.5
Favors intervention　　Favors control

Figure 4. Meta-analysis and forest plot of the effect of app-based interventions on total cholesterol (TC). REML: restricted maximum likelihood.

Source	Intervention N	Mean	SD	Control N	Mean	SD		Mean difference (95% CI)	Weight %
Liu et al [28]	29	3.61	.82	28	4.39	.65		−0.78 (−1.17 to −0.39)	48.78
Santo et al [33]	98	3.6	.9	49	3.6	.84		0.00 (−0.30 to 0.30)	51.22
Overall								−0.38 (−1.14 to 0.38)	

Heterogeneity: τ^2=.27, I^2=89.76%, H^2=9.76
Test of $\theta_i=\theta_j$: Q(1)=9.76, P<.001
Test of θ=0: z=−.98, P=.33
Random-effects REML model

−1　−.5　0　.5
Favors intervention　　Favors control