

Figure 1. Estimated power for linear model, using (2): 1, test of $\beta_2 = 0$; 2, test of $\beta_1^* = \beta_1$

Table I. Simulation results for linear model with continuous primary predictor and continuous mediator, shown in upper left panel of Figure 1

σ_1^2	β_1	σ_2^2	β_2	ρ	σ_e^2	N	P_1	P_2
1	0.5	1	0.1	0.3	1	863	81.9	80.8
1	0.5	1	0.1	0.5	1	1047	80.7	80.8
1	0.5	1	0.1	0.7	1	1539	81.4	81.6
1	0.5	1	0.2	0.3	1	216	78.6	71.1
1	0.5	1	0.2	0.5	1	262	78.4	77.5
1	0.5	1	0.2	0.7	1	385	79.2	79.1
1	0.5	1	0.3	0.3	1	96	77.2	48.9
1	0.5	1	0.3	0.5	1	116	78.7	75.2
1	0.5	1	0.3	0.7	1	171	78.2	79
1	0.5	1	0.4	0.3	1	54	78.4	33.2
1	0.5	1	0.4	0.5	1	65	78.2	71.4
1	0.5	1	0.4	0.7	1	96	77.2	77.9

N : Sample size estimated using formula (2).

P_1 : Estimated percent power to reject $\beta_2 = 0$.

P_2 : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table II. Simulation results for linear model with binary primary predictor and continuous mediator,
shown in upper right panel of Figure 1

f_1	β_1	σ_2^2	β_2	ρ	σ_e^2	N	P_1	P_2
0.5	1	1	0.1	0.3	1	863	80.7	78.7
0.5	1	1	0.1	0.5	1	1047	78.8	78.9
0.5	1	1	0.1	0.7	1	1539	80.1	80
0.5	1	1	0.2	0.3	1	216	78.6	71.2
0.5	1	1	0.2	0.5	1	262	79.5	79.3
0.5	1	1	0.2	0.7	1	385	79.3	79.2
0.5	1	1	0.3	0.3	1	96	76.2	45.6
0.5	1	1	0.3	0.5	1	116	77.9	76
0.5	1	1	0.3	0.7	1	171	79.2	78.5
0.5	1	1	0.4	0.3	1	54	78.8	32.8
0.5	1	1	0.4	0.5	1	65	76.5	69.7
0.5	1	1	0.4	0.7	1	96	77.9	77.8

N : Sample size estimated using formula (2).

P_1 : Estimated percent power to reject $\beta_2 = 0$.

P_2 : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table III. Simulation results for linear model with continuous primary predictor and binary mediator, shown in lower left panel of Figure 1

σ_1^2	β_1	f_2	β_2	ρ	σ_e^2	N	P_1	P_2
1	0.5	0.25	0.2	0.3	1	1150	80.0	78.4
1	0.5	0.25	0.2	0.5	1	1395	77.3	77.2
1	0.5	0.25	0.35	0.3	1	376	78.7	74.9
1	0.5	0.25	0.35	0.5	1	456	80.8	80.1
1	0.5	0.25	0.5	0.3	1	184	82.3	70.5
1	0.5	0.25	0.5	0.5	1	223	79.7	78.5
1	0.5	0.50	0.2	0.3	1	863	81.3	79.7
1	0.5	0.50	0.2	0.5	1	1047	78.6	78.7
1	0.5	0.50	0.35	0.3	1	282	78.8	75.5
1	0.5	0.50	0.35	0.5	1	342	80.0	79.7
1	0.5	0.50	0.5	0.3	1	138	80.2	64.5
1	0.5	0.50	0.5	0.5	1	167	79.0	77.6

N : Sample size estimated using formula (2).

P_1 : Estimated percent power to reject $\beta_2 = 0$.

P_2 : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table IV. Simulation results for linear model with binary primary predictor and binary mediator, shown in lower right panel of Figure 1

f_1	β_1	f_2	β_2	ρ	σ_e^2	N	P_1	P_2
0.5	1	0.25	0.2	0.3	1	1150	79.1	78.6
0.5	1	0.25	0.2	0.5	1	1395	79.6	79.2
0.5	1	0.25	0.35	0.3	1	376	78.5	75.2
0.5	1	0.25	0.35	0.5	1	456	81.0	80.1
0.5	1	0.25	0.5	0.3	1	184	77.1	66.6
0.5	1	0.25	0.5	0.5	1	223	79.8	78.8
0.5	1	0.5	0.2	0.3	1	863	81.7	80.4
0.5	1	0.5	0.2	0.5	1	1047	78.0	78.4
0.5	1	0.5	0.35	0.3	1	282	81.4	76.7
0.5	1	0.5	0.35	0.5	1	342	80.0	79.8
0.5	1	0.5	0.5	0.3	1	138	78.2	57.5
0.5	1	0.5	0.5	0.5	1	167	80.7	79.2

N : Sample size estimated using formula (2).

P_1 : Estimated percent power to reject $\beta_2 = 0$.

P_2 : Estimated percent power to reject $\beta_1^* = \beta_1$.

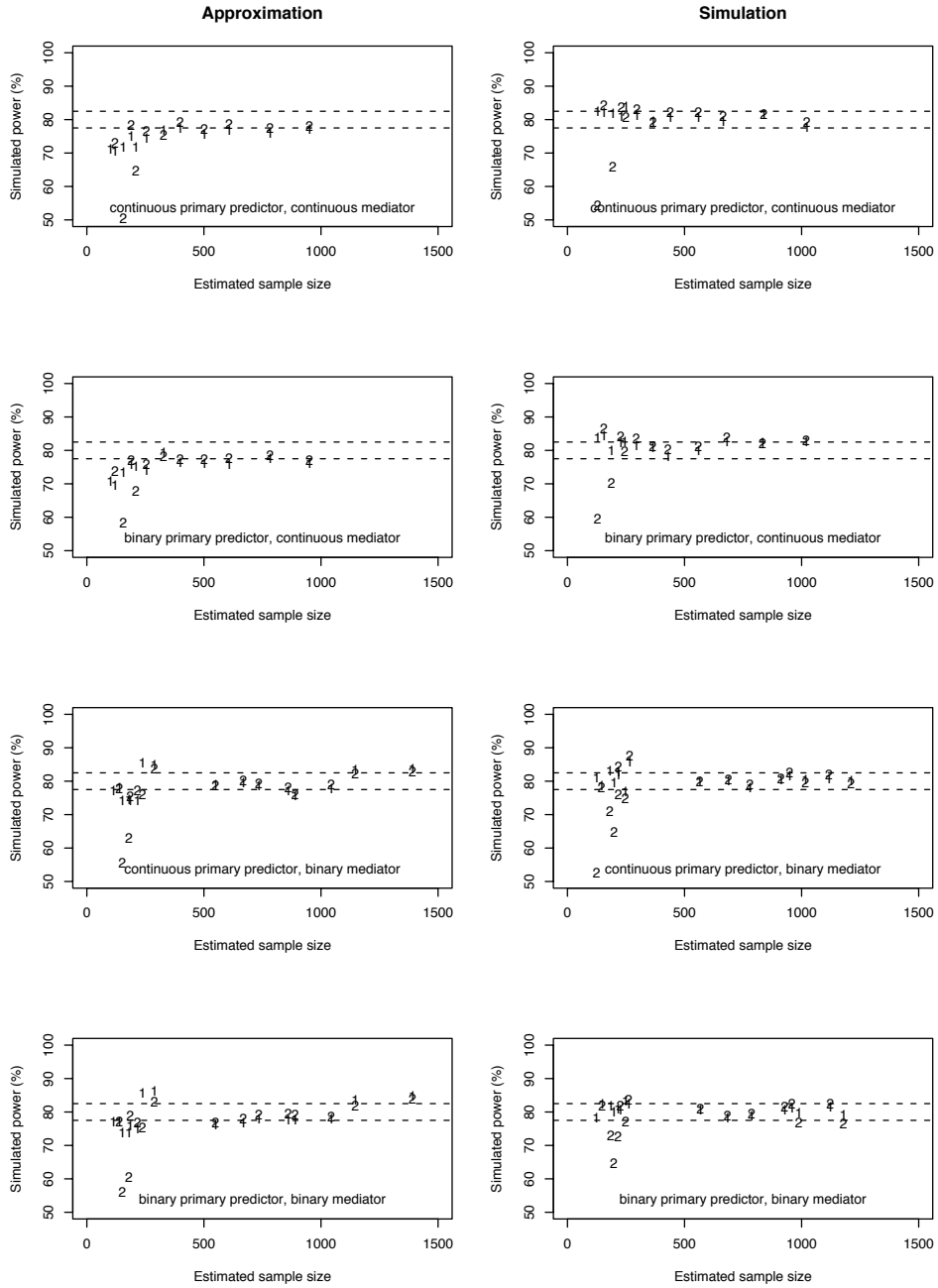


Figure 2. Estimated power for logistic model, using (7)-(8): 1, test of $\beta_2 = 0$; 2, test of $\beta_1^* = \beta_1$

Table V. Simulation results for logistic model with continuous primary predictor and continuous mediator, shown in top row of Figure 2

σ_1^2	OR_1	σ_2^2	OR_2	ρ	p	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
1	1.5	1	1.3	0.3	0.2	783	76.0	77.4	839	81.6	81.5
1	1.5	1	1.3	0.5	0.2	950	77.1	78.1	1022	77.8	79.3
1	1.5	1	1.5	0.3	0.2	328	77.0	75.5	366	79.6	79.4
1	1.5	1	1.5	0.5	0.2	398	77.5	79.2	439	80.7	82.2
1	1.5	1	1.8	0.3	0.2	156	71.8	50.6	193	81.8	65.9
1	1.5	1	1.8	0.5	0.2	189	75.2	78.4	231	81.1	83.7
1	1.5	1	1.3	0.3	0.5	501	75.6	77.1	559	80.7	82.1
1	1.5	1	1.3	0.5	0.5	608	77.0	78.7	665	79.5	81.1
1	1.5	1	1.5	0.3	0.5	210	71.8	64.7	250	84.1	80.6
1	1.5	1	1.5	0.5	0.5	255	74.4	76.5	297	81.3	83.2
1	1.5	1	1.8	0.3	0.5	100	71.2	37.4	129	82.5	54.3
1	1.5	1	1.8	0.5	0.5	121	70.8	73.1	155	82.3	84.2

N_1 : Sample size estimated using approximate formula (7).

N_2 : Sample size estimated using simulation and (8).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table VI. Simulation results for logistic model with binary primary predictor and continuous mediator, shown in second row of Figure 2

f_1	OR_1	σ_2^2	OR_2	ρ	p	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
0.5	2	1	1.3	0.3	0.2	783	77.7	78.7	833	82.5	82
0.5	2	1	1.3	0.5	0.2	950	76.1	77.1	1020	82.7	82.9
0.5	2	1	1.5	0.3	0.2	328	79.4	78.2	364	81.0	81.3
0.5	2	1	1.5	0.5	0.2	398	76.4	77.5	429	78.2	80.2
0.5	2	1	1.8	0.3	0.2	156	73.5	58.4	188	80.1	70.3
0.5	2	1	1.8	0.5	0.2	189	76.0	77.2	227	82.3	84.1
0.5	2	1	1.3	0.3	0.5	501	76.1	77.5	559	80.0	81.1
0.5	2	1	1.3	0.5	0.5	608	76.0	77.6	680	82.7	83.8
0.5	2	1	1.5	0.3	0.5	210	75.2	68.0	245	82.8	79.8
0.5	2	1	1.5	0.5	0.5	255	74.1	76.0	294	81.4	83.5
0.5	2	1	1.8	0.3	0.5	100	70.9	38.5	129	83.9	59.5
0.5	2	1	1.8	0.5	0.5	121	69.6	73.9	155	84.6	86.5

N_1 : Sample size estimated using approximate formula (7).

N_2 : Sample size estimated using Monte Carlo integration and (8).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table VII. Simulation results for logistic model with continuous primary predictor and binary mediator, shown in third row of Figure 2

σ_1^2	OR_1	f_2	OR_2	ρ	p	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
1	1.4	0.25	1.65	0.3	0.2	1146	83.5	82.3	1016	80.6	79.5
1	1.4	0.25	1.65	0.5	0.2	1391	83.7	82.9	1212	80.1	79.3
1	1.4	0.25	3.00	0.3	0.2	238	85.7	76.1	199	79.5	64.7
1	1.4	0.25	3.00	0.5	0.2	289	84.9	83.8	247	77.1	74.9
1	1.4	0.50	1.65	0.3	0.2	860	77.2	78.0	912	80.5	80.9
1	1.4	0.50	1.65	0.5	0.2	1043	77.9	79.0	1117	80.8	82.1
1	1.4	0.50	3.00	0.3	0.2	179	74.7	63.0	218	82.9	76.1
1	1.4	0.50	3.00	0.5	0.2	217	74.3	77.3	266	85.8	87.7
1	1.4	0.25	1.65	0.3	0.5	734	78.8	79.4	780	78.0	78.9
1	1.4	0.25	1.65	0.5	0.5	890	75.7	76.2	949	81.7	82.6
1	1.4	0.25	3.00	0.3	0.5	152	74.4	55.7	181	83.1	71.0
1	1.4	0.25	3.00	0.5	0.5	185	74.2	75.6	218	82.1	84.4
1	1.4	0.50	1.65	0.3	0.5	550	79.0	78.8	565	79.8	80.0
1	1.4	0.50	1.65	0.5	0.5	668	79.7	80.3	688	80.1	80.5
1	1.4	0.50	3.00	0.3	0.5	114	77.4	46.2	124	81.1	52.5
1	1.4	0.50	3.00	0.5	0.5	139	78.1	77.8	146	78.6	78.2

N_1 : Sample size estimated using approximate formula (7).

N_2 : Sample size estimated using Monte Carlo integration and (8).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table VIII. Simulation results for logistic model with binary primary predictor and binary mediator, shown in fourth row of Figure 2

f_1	OR_1	f_2	OR_2	ρ	p	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
0.5	2	0.25	1.65	0.3	0.2	1146	83.7	82.0	988	79.9	76.9
0.5	2	0.25	1.65	0.5	0.2	1391	84.8	84.1	1179	79.1	76.6
0.5	2	0.25	3.00	0.3	0.2	238	85.8	75.4	198	80.2	64.6
0.5	2	0.25	3.00	0.5	0.2	289	86.4	83.0	248	83.3	77.0
0.5	2	0.50	1.65	0.3	0.2	860	77.8	79.5	927	80.8	81.5
0.5	2	0.50	1.65	0.5	0.2	1043	77.9	78.5	1122	81.7	82.4
0.5	2	0.50	3.00	0.3	0.2	179	74.0	60.5	216	80.9	72.7
0.5	2	0.50	3.00	0.5	0.2	217	75.2	76.8	261	82.5	83.8
0.5	2	0.25	1.65	0.3	0.5	734	78.0	79.1	787	78.9	79.4
0.5	2	0.25	1.65	0.5	0.5	890	77.8	79.2	959	81.3	82.6
0.5	2	0.25	3.00	0.3	0.5	152	74.0	56.1	185	82.0	72.9
0.5	2	0.25	3.00	0.5	0.5	185	76.0	78.8	226	80.7	81.8
0.5	2	0.50	1.65	0.3	0.5	550	76.3	76.8	567	80.6	80.9
0.5	2	0.50	1.65	0.5	0.5	668	76.7	78.0	683	78.4	78.9
0.5	2	0.50	3.00	0.3	0.5	114	77.1	40.7	123	78.4	44.6
0.5	2	0.50	3.00	0.5	0.5	139	77.2	77.0	148	82.5	81.9

N_1 : Sample size estimated using approximate formula (7).

N_2 : Sample size estimated using Monte Carlo integration and (8).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

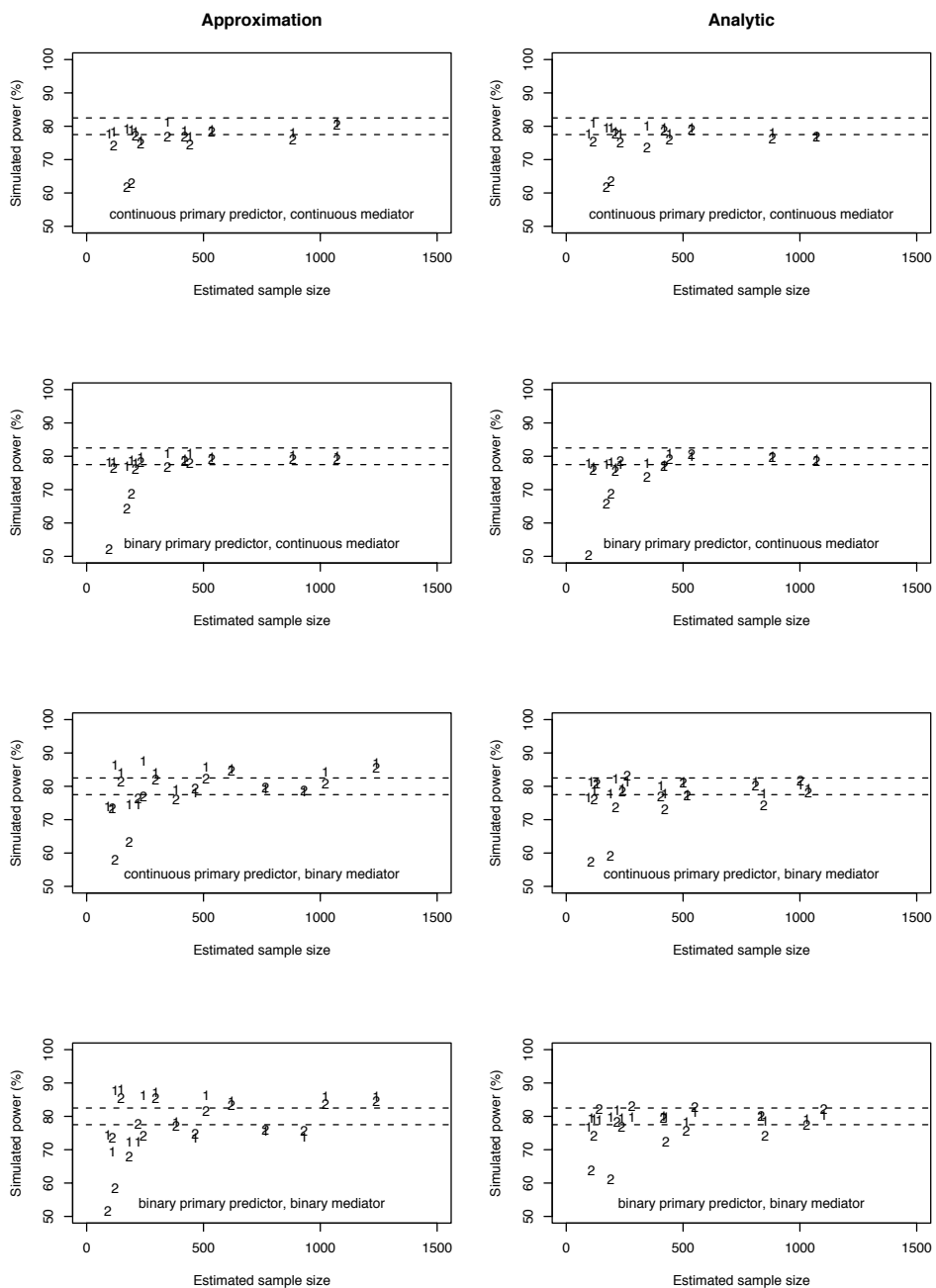


Figure 3. Estimated power for Poisson model, using (9)-(12): 1, test of $\beta_2 = 0$; 2, test of $\beta_1^* = \beta_1$

Table IX. Simulation results for Poisson model with continuous primary predictor and continuous mediator, shown in top row of Figure 3

σ_1^2	RR_1	σ_2^2	RR_2	ρ	$E(Y)$	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
1	1.4	1	1.15	0.3	0.5	883	78.0	76.1	883	78.2	76.4
1	1.4	1	1.15	0.5	0.5	1072	80.9	80.3	1072	76.9	76.8
1	1.4	1	1.25	0.3	0.5	346	81.4	76.9	346	80.2	73.6
1	1.4	1	1.25	0.5	0.5	420	78.7	77.0	420	79.7	78.7
1	1.4	1	1.35	0.3	0.5	192	78.9	62.9	192	79.6	63.6
1	1.4	1	1.35	0.5	0.5	232	75.8	74.7	232	77.9	75.1
1	1.4	1	1.15	0.3	1.0	442	76.8	74.6	442	77.8	76.0
1	1.4	1	1.15	0.5	1.0	536	78.9	78.4	536	79.5	79.0
1	1.4	1	1.25	0.3	1.0	173	79.2	61.8	173	79.6	61.8
1	1.4	1	1.25	0.5	1.0	210	78.5	77.1	210	78.5	77.9
1	1.4	1	1.35	0.3	1.0	96	77.7	44.2	96	77.7	42.8
1	1.4	1	1.35	0.5	1.0	116	78.3	74.2	116	80.9	75.3

N_1 : Sample size estimated using approximate formula (9).

N_2 : Sample size estimated using analytic formula (9).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table X. Simulation results for Poisson model with binary primary predictor and continuous mediator, shown in second row of Figure 3

f_1	RR_1	σ_2^2	RR_2	ρ	$E(Y)$	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
0.25	2	1	1.15	0.3	0.5	883	80.3	79.1	883	80.1	79.7
0.25	2	1	1.15	0.5	0.5	1072	79.9	79.2	1072	79.0	78.7
0.25	2	1	1.25	0.3	0.5	346	81.0	76.7	346	77.9	73.8
0.25	2	1	1.25	0.5	0.5	420	79.1	78.5	420	77.3	77.0
0.25	2	1	1.35	0.3	0.5	192	78.9	68.8	192	78.3	68.7
0.25	2	1	1.35	0.5	0.5	232	79.8	78.3	232	77.8	78.7
0.25	2	1	1.15	0.3	1.0	442	80.9	78.1	442	80.8	79.0
0.25	2	1	1.15	0.5	1.0	536	79.8	79.0	536	80.1	80.5
0.25	2	1	1.25	0.3	1.0	173	77.0	64.3	173	77.8	65.9
0.25	2	1	1.25	0.5	1.0	210	77.9	76.2	210	76.4	75.6
0.25	2	1	1.35	0.3	1.0	96	78.4	52.2	96	78.1	50.5
0.25	2	1	1.35	0.5	1.0	116	78.4	76.5	116	76.8	75.8

N_1 : Sample size estimated using approximate formula (9).

N_2 : Sample size estimated using analytic formula (9).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table XI. Simulation results for Poisson model with continuous primary predictor and binary mediator, shown in third row of Figure 3

σ_1^2	RR_1	f_2	RR_2	ρ	$E(Y)$	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
1	1.4	0.25	1.35	0.3	0.5	1022	84.4	80.7	846	77.9	74.2
1	1.4	0.25	1.35	0.5	0.5	1239	87.0	85.6	1037	79.2	78.1
1	1.4	0.25	1.85	0.3	0.5	243	87.7	77.1	190	77.8	59.2
1	1.4	0.25	1.85	0.5	0.5	295	84.1	82.0	240	79.3	78.5
1	1.4	0.50	1.35	0.3	0.5	766	79.4	79.5	811	81.3	80.2
1	1.4	0.50	1.35	0.5	0.5	930	78.4	78.8	1003	80.5	81.6
1	1.4	0.50	1.85	0.3	0.5	182	74.7	63.4	212	82.2	73.7
1	1.4	0.50	1.85	0.5	0.5	221	74.5	76.4	262	81.5	83.2
1	1.4	0.25	1.35	0.3	1.0	511	85.8	82.2	423	77.9	73.2
1	1.4	0.25	1.35	0.5	1.0	620	85.3	84.7	518	77.6	77.3
1	1.4	0.25	1.85	0.3	1.0	122	86.3	58.1	95	76.7	40.5
1	1.4	0.25	1.85	0.5	1.0	147	84.2	81.5	120	78.8	76.0
1	1.4	0.50	1.35	0.3	1.0	383	79.1	76.2	405	80.1	77.0
1	1.4	0.50	1.35	0.5	1.0	465	78.2	79.3	501	81.3	81.2
1	1.4	0.50	1.85	0.3	1.0	91	74.1	46.4	106	81.3	57.5
1	1.4	0.50	1.85	0.5	1.0	111	73.4	73.4	131	80.8	80.8

N_1 : Sample size estimated using approximate formula (9).

N_2 : Sample size estimated using analytic formula (10).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table XII. Simulation results for Poisson model with binary primary predictor and binary mediator,
shown in fourth row of Figure 3

f_1	RR_1	f_2	RR_2	ρ	$E(Y)$	N_1	P_{11}	P_{12}	N_2	P_{21}	P_{22}
0.25	2	0.25	1.35	0.3	0.5	1022	85.9	83.6	852	78.6	74.3
0.25	2	0.25	1.35	0.5	0.5	1239	86.0	84.7	1029	79.1	77.5
0.25	2	0.25	1.85	0.3	0.5	243	86.2	74.2	191	79.7	61.2
0.25	2	0.25	1.85	0.5	0.5	295	87.2	85.3	237	79.5	76.7
0.25	2	0.50	1.35	0.3	0.5	766	75.7	76.0	834	80.2	80.2
0.25	2	0.50	1.35	0.5	0.5	930	74.0	75.7	1103	80.5	82.2
0.25	2	0.50	1.85	0.3	0.5	182	72.5	67.9	217	81.9	78.4
0.25	2	0.50	1.85	0.5	0.5	221	72.3	77.8	281	79.7	83.0
0.25	2	0.25	1.35	0.3	1.0	511	86.2	81.6	426	79.9	72.5
0.25	2	0.25	1.35	0.5	1.0	620	84.7	83.3	514	78.4	75.8
0.25	2	0.25	1.85	0.3	1.0	122	87.8	58.4	96	76.7	37.2
0.25	2	0.25	1.85	0.5	1.0	147	88.1	85.4	119	79.3	74.2
0.25	2	0.50	1.35	0.3	1.0	383	78.4	77.1	417	80.1	79.4
0.25	2	0.50	1.35	0.5	1.0	465	73.5	74.7	551	81.2	82.7
0.25	2	0.50	1.85	0.3	1.0	91	74.6	51.5	108	79.5	63.7
0.25	2	0.50	1.85	0.5	1.0	111	69.4	73.7	141	79.0	82.2

N_1 : Sample size estimated using approximate formula (9).

N_2 : Sample size estimated using analytic formula (11).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

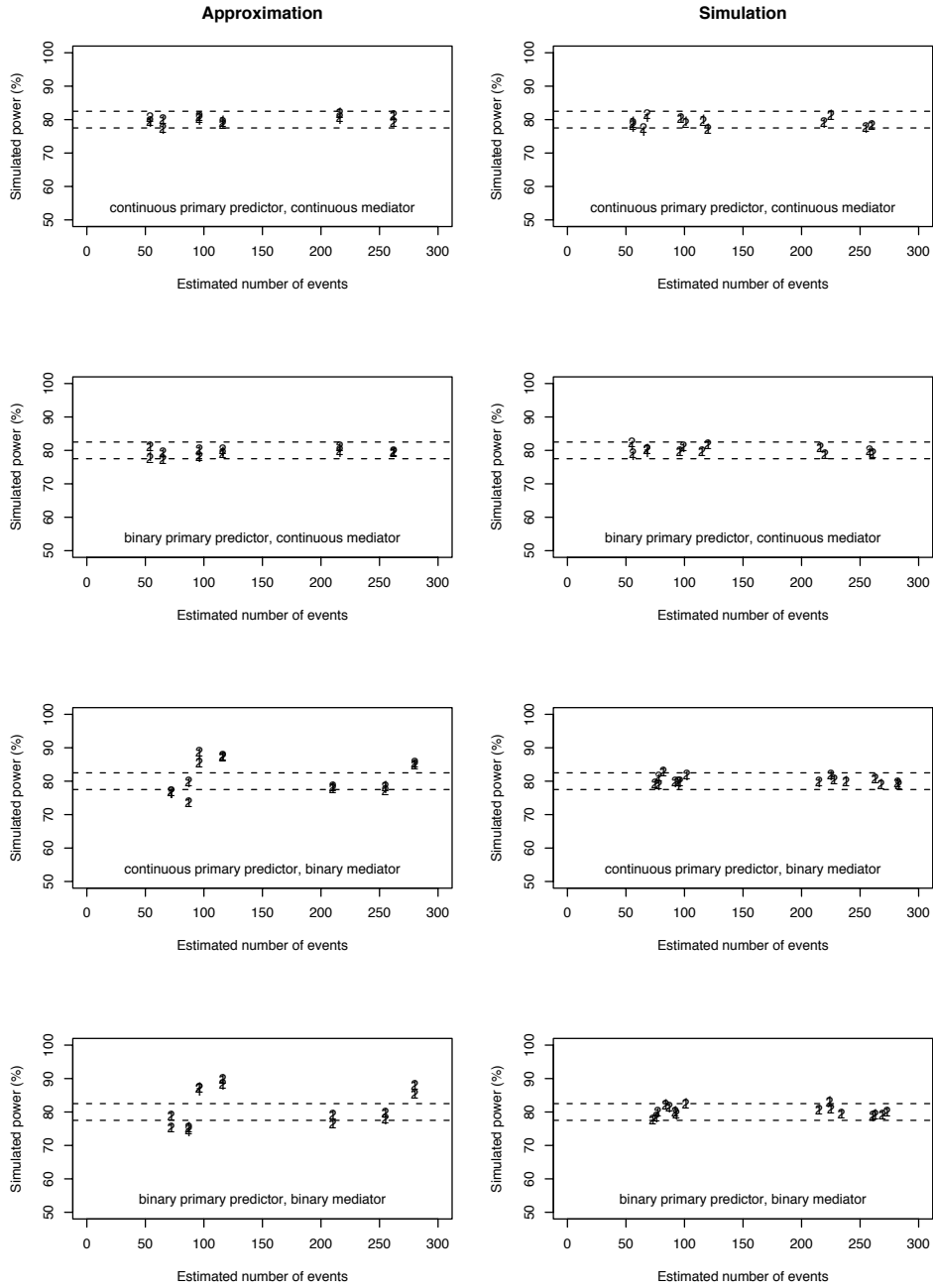


Figure 4. Estimated power for Cox model, using (13)-(14): 1, test of $\beta_2 = 0$; 2, test of $\beta_1^* = \beta_1$

Table XIII. Simulation results for Cox model with continuous primary predictor and continuous mediator, shown in top row of Figure 4

σ_1^2	$\log RH_1$	σ_2^2	$\log RH_2$	ρ	ψ	N_1	D_1	P_{11}	P_{12}	N_2	D_2	P_{21}	P_{22}
1	0.5	1	0.2	0.3	0.2	1078	216	82.3	81.9	1095	219	79.1	79.4
1	0.5	1	0.2	0.5	0.2	1308	262	81.4	81.2	1298	260	78.5	78.5
1	0.5	1	0.3	0.3	0.2	479	96	81.1	81.1	483	97	80.5	80.4
1	0.5	1	0.3	0.5	0.2	581	116	79.8	79.2	579	116	80.1	79.5
1	0.5	1	0.4	0.3	0.2	270	54	79.7	80.6	280	56	79.5	79.1
1	0.5	1	0.4	0.5	0.2	327	65	79.8	80.2	327	65	76.7	77.4
1	0.5	1	0.2	0.3	0.5	431	216	80.2	80.8	450	225	81.6	81.3
1	0.5	1	0.2	0.5	0.5	523	262	79.3	79.3	510	255	77.6	77.7
1	0.5	1	0.3	0.3	0.5	192	96	80.0	80.5	201	101	79.7	79.1
1	0.5	1	0.3	0.5	0.5	233	116	78.8	78.6	241	120	77.4	77.1
1	0.5	1	0.4	0.3	0.5	108	54	79.4	79.7	113	56	77.7	78.4
1	0.5	1	0.4	0.5	0.5	131	65	77.3	77.5	136	68	80.6	81.6

ψ : Fraction of uncensored observations.

N_1, D_1 : Sample size, events estimated using approximate formula (13).

N_2, D_2 : Sample size, events estimated using Monte Carlo integration and (14).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table XIV. Simulation results for Cox model with binary primary predictor and continuous mediator, shown in second row of Figure 4

f_1	$\log RH_1$	σ_2^2	$\log RH_2$	ρ	ψ	N_1	D_1	P_{11}	P_{12}	N_2	D_2	P_{21}	P_{22}
0.5	0.5	1	0.2	0.3	0.2	1078	216	79.5	80.0	1082	216	81.0	80.8
0.5	0.5	1	0.2	0.5	0.2	1308	262	79.3	79.3	1304	261	79.1	79.2
0.5	0.5	1	0.3	0.3	0.2	479	96	80.1	80.4	480	96	79.8	79.6
0.5	0.5	1	0.3	0.5	0.2	581	116	79.6	79.1	576	115	79.8	79.6
0.5	0.5	1	0.4	0.3	0.2	270	54	81.2	81.2	275	55	81.5	82.4
0.5	0.5	1	0.4	0.5	0.2	327	65	79.1	79.3	342	68	80.5	80.4
0.5	0.5	1	0.2	0.3	0.5	431	216	80.9	81.3	440	220	78.8	78.8
0.5	0.5	1	0.2	0.5	0.5	523	262	79.4	79.6	517	258	79.5	79.9
0.5	0.5	1	0.3	0.3	0.5	192	96	78.1	78.4	198	99	80.9	81.3
0.5	0.5	1	0.3	0.5	0.5	233	116	79.4	80.2	241	120	81.8	81.8
0.5	0.5	1	0.4	0.3	0.5	108	54	78.4	77.8	113	56	78.5	79.1
0.5	0.5	1	0.4	0.5	0.5	131	65	77.5	77.3	135	68	79.5	80.3

ψ : Fraction of uncensored observations.

N_1, D_1 : Sample size, events estimated using approximate formula (13).

N_2, D_2 : Sample size, events estimated using Monte Carlo integration and (14).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table XV. Simulation results for Cox model with continuous primary predictor and binary mediator, shown in third row of Figure 4

σ_1^2	RH_1	f_2	RH_2	ρ	ψ	N_1	D_1	P_{11}	P_{12}	N_2	D_2	P_{21}	P_{22}
1	1.4	0.25	1.5	0.3	0.2	1399	280	85.4	85.6	1140	228	80.5	80.5
1	1.4	0.25	1.5	0.5	0.2	1697	339	83.3	82.8	1408	282	79.6	79.7
1	1.4	0.25	2.0	0.3	0.2	479	96	88.6	88.8	377	75	78.9	79.2
1	1.4	0.25	2.0	0.5	0.2	581	116	87.4	87.4	478	96	79.5	79.8
1	1.4	0.50	1.5	0.3	0.2	1049	210	78.1	77.9	1124	225	81.8	81.9
1	1.4	0.50	1.5	0.5	0.2	1273	255	77.9	77.4	1339	268	79.2	79.0
1	1.4	0.50	2.0	0.3	0.2	359	72	76.3	77.1	412	82	82.8	82.8
1	1.4	0.50	2.0	0.5	0.2	436	87	73.8	73.6	509	102	81.6	81.9
1	1.4	0.25	1.5	0.3	0.5	560	280	85.0	84.9	476	238	80.2	79.8
1	1.4	0.25	1.5	0.5	0.5	679	339	85.2	84.9	566	283	78.7	78.9
1	1.4	0.25	2.0	0.3	0.5	191	96	85.8	85.5	157	78	78.7	79.1
1	1.4	0.25	2.0	0.5	0.5	232	116	87.2	87.7	191	95	79.1	79.9
1	1.4	0.50	1.5	0.3	0.5	420	210	78.3	78.3	429	215	79.5	79.9
1	1.4	0.50	1.5	0.5	0.5	509	255	78.7	78.3	525	263	80.8	80.8
1	1.4	0.50	2.0	0.3	0.5	144	72	76.5	77.0	156	78	80.9	81.3
1	1.4	0.05	2.0	0.5	0.5	174	87	79.7	80.0	183	92	79.6	80.0

ψ : Fraction of uncensored observations.

N_1, D_1 : Sample size, events estimated using approximate formula (13).

N_2, D_2 : Sample size, events estimated using Monte Carlo integration and (14).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.

Table XVI. Simulation results for Cox model with binary primary predictor and binary mediator, shown in fourth row of Figure 4

f_1	RH_1	f_2	RH_2	ρ	ψ	N_1	D_1	P_{11}	P_{12}	N_2	D_2	P_{21}	P_{22}
0.5	2	0.25	1.5	0.3	0.2	1399	280	88.0	88.1	1123	225	80.9	80.9
0.5	2	0.25	1.5	0.5	0.2	1697	339	88.4	88.5	1303	261	78.7	78.8
0.5	2	0.25	2.0	0.3	0.2	479	96	87.4	87.1	367	73	77.6	77.8
0.5	2	0.25	2.0	0.5	0.2	581	116	89.8	89.8	436	87	81.3	81.6
0.5	2	0.50	1.5	0.3	0.2	1049	210	76.5	76.5	1120	224	83.3	83.0
0.5	2	0.50	1.5	0.5	0.2	1273	255	79.7	79.7	1367	273	80.2	80.0
0.5	2	0.50	2.0	0.3	0.2	359	72	75.5	75.5	418	84	82.4	82.2
0.5	2	0.50	2.0	0.5	0.2	436	87	74.2	74.7	506	101	82.7	82.4
0.5	2	0.25	1.5	0.3	0.5	560	280	85.5	85.3	469	234	79.6	79.5
0.5	2	0.25	1.5	0.5	0.5	679	339	85.5	85.7	539	269	79.1	79.1
0.5	2	0.25	2.0	0.3	0.5	191	96	86.4	87.2	152	76	78.2	78.5
0.5	2	0.25	2.0	0.5	0.5	232	116	88.0	88.4	183	92	80.3	80.2
0.5	2	0.50	1.5	0.3	0.5	420	210	79.2	79.1	430	215	80.7	80.7
0.5	2	0.50	1.5	0.5	0.5	509	255	77.7	77.9	527	263	79.4	79.3
0.5	2	0.50	2.0	0.3	0.5	144	72	78.9	79.0	154	77	79.9	80.0
0.5	2	0.50	2.0	0.5	0.5	174	87	75.8	75.3	186	93	79.2	79.4

ψ : Fraction of uncensored observations.

N_1, D_1 : Sample size, events estimated using approximate formula (13).

N_2, D_2 : Sample size, events estimated using Monte Carlo integration and (14).

P_{11}, P_{21} : Estimated percent power to reject $\beta_2 = 0$.

P_{12}, P_{22} : Estimated percent power to reject $\beta_1^* = \beta_1$.