

Supplemental Material S7: Simulation results based on other conditions in testing γ_2 .

($\rho_2=.05$, $\rho_1=.10$, $\Delta_2=0.5$ and $\Delta_3=0.2$)

φ^*	φ	I	J	K	η_2^{*2}	η_3^{*2}	φ^*	φ	I	J	K	η_2^{*2}	η_3^{*2}
.55	.30	10	5	5	.05	.05	.99	.97	100	15	5	.05	.05
.50	.26	10	5	5	.05	.20	.97	.94	100	15	5	.05	.20
.74	.77	10	5	5	.20	.05	1	1	100	15	5	.20	.05
.74	.70	10	5	5	.20	.20	1	1	100	15	5	.20	.20
.54	.42	20	5	5	.05	.05	.94	.70	10	5	15	.05	.05
.45	.36	20	5	5	.05	.20	.93	.62	10	5	15	.05	.20
.85	.92	20	5	5	.20	.05	1	1	10	5	15	.20	.05
.81	.87	20	5	5	.20	.20	1	.99	10	5	15	.20	.20
.54	.48	30	5	5	.05	.05	.95	.86	20	5	15	.05	.05
.48	.42	30	5	5	.05	.20	.93	.79	20	5	15	.05	.20
.89	.96	30	5	5	.20	.05	1	1	20	5	15	.20	.05
.85	.92	30	5	5	.20	.20	1	1	20	5	15	.20	.20
.54	.55	50	5	5	.05	.05	.95	.91	30	5	15	.05	.05
.46	.48	50	5	5	.05	.20	.92	.86	30	5	15	.05	.20
.94	.98	50	5	5	.20	.05	1	1	30	5	15	.20	.05
.93	.96	50	5	5	.20	.20	1	1	30	5	15	.20	.20
.51	.61	100	5	5	.05	.05	.94	.95	50	5	15	.05	.05
.48	.54	100	5	5	.05	.20	.92	.91	50	5	15	.05	.20
.96	.99	100	5	5	.20	.05	1	1	50	5	15	.20	.05
.93	.98	100	5	5	.20	.20	1	1	50	5	15	.20	.20
.95	.70	10	15	5	.05	.05	.95	.97	100	5	15	.05	.05
.92	.62	10	15	5	.05	.20	.89	.94	100	5	15	.05	.20
1	1	10	15	5	.20	.05	1	1	100	5	15	.20	.05
1	.99	10	15	5	.20	.20	1	1	100	5	15	.20	.20
.98	.86	20	15	5	.05	.05	1	.99	10	15	15	.05	.05
.96	.79	20	15	5	.05	.20	1	.98	10	15	15	.05	.20
1	1	20	15	5	.20	.05	1	1	10	15	15	.20	.05
1	1	20	15	5	.20	.20	1	1	10	15	15	.20	.20
.97	.91	30	15	5	.05	.05	1	1	20	15	15	.05	.05
.90	.86	30	15	5	.05	.20	1	1	20	15	15	.05	.20
1	1	30	15	5	.20	.05	1	1	20	15	15	.20	.05
1	1	30	15	5	.20	.20	1	1	20	15	15	.20	.20
.99	.95	50	15	5	.05	.05	1	1	30	15	15	.05	.05
.94	.91	50	15	5	.05	.20	1	1	30	15	15	.05	.20
1	1	50	15	5	.20	.05	1	1	30	15	15	.20	.05
1	1	50	15	5	.20	.20	1	1	30	15	15	.20	.20

I, J, K ...the number of level 1,2 and 3 units.

η_2^{*2} ...population proportion of the within level-3 units sum of squares explained by the difference of level-2 units.

η_3^{*2} ...population proportion of variance in predictor explained by the difference of level-3 units.

φ^*, φ ...simulated and theoretical statistical power.

$\Delta_2(\Delta_3)$...effect size from level-2 (level-3) context.

ρ_1, ρ_2 ...correlation of predictor-adjusted outcomes between level-1 and level-2 units.