Supplementary Section

In the following section we present figures and tables portraying family-wise error-rates (FWER) and statistical powers estimated from the data synthetically generated with the set of parameters not reported in the main text. The section includes 13 figures and 5 tables.

Figures. The FWER figures portray the mean FWER and 95% bootstrap confidence intervals (btCIs) computed across Monte-Carlo (MC) simulations for all trials numbers, subject groups (i.e. n=6; n=10; n=14; and n=18) and single subject scenario computed using synthetically generated data with noise sampled from uniform (Figure S1) and exponential (Figure S2) distributions.

The statistical power figures show the mean power and 95% btCIs across Monte-Carlo (MC) simulations for all trials numbers, subject groups (i.e. n=6; n=10; n=14; and n=18) and single subject scenario estimated from synthetic data with noise sampled from normal (Figures S3-S5), uniform (Figures S6-S9) and exponential (Figures S10-S13) distributions.

This section includes 3 figures for data with noise generated from a normal distribution. These show the results for the cases where multivariate effect was introduced over TRs 5 and 6 (Figure S3); over TRs 5, 6, 7 and 8 (Figure S4); and over TRs 5, 6, 7, 8 and 9 (Figure S5). It further comprises 4 figures showing the results for the data generated with noise sampled from a uniform distribution. These 4 figures respectively portray data where the multivariate effect was introduced over TRs 5 and 6 (Figure S6); over TRs 5, 6 and 7 (Figure S7); over TRs 5, 6, 7 and 8 (Figure S8); and over TRs 5, 6, 7, 8 and 9 (Figure S9). The final set of 4 figures depicts the statistical power estimated for data with noise sampled from an exponential distribution with multivariate effect introduced over TRs 5 and 6 (Figure S10); over TRs 5, 6 and 7 (Figure S11); over TRs 5, 6, 7 and 8 (Figure S12); and over TRs 5, 6, 7, 8 and 9 (Figure S13).

Tables. The 5 tables contain the mean and 95% btCIs of FWER and statistical power for all trials numbers, subject groups (i.e. n=6; n=10; n=14; and n=18) and single subject scenario, for the synthetic data generate with noise sampled from normal, uniform and exponential distributions. The 5 tables are structured as follows: in Table 1 we report all values for the FWER estimation. Tables 2-5 instead contain the statistical power respectively estimated for the scenario in which we introduced a multivariate pattern across TRs 5 and 6 (Table 2); TRs 5, 6 and 7 (Table 3); TRs 5, 6, 7 and 8 (Table 4); and TRs 5, 6, 7, 8 and 9 (Table 5).

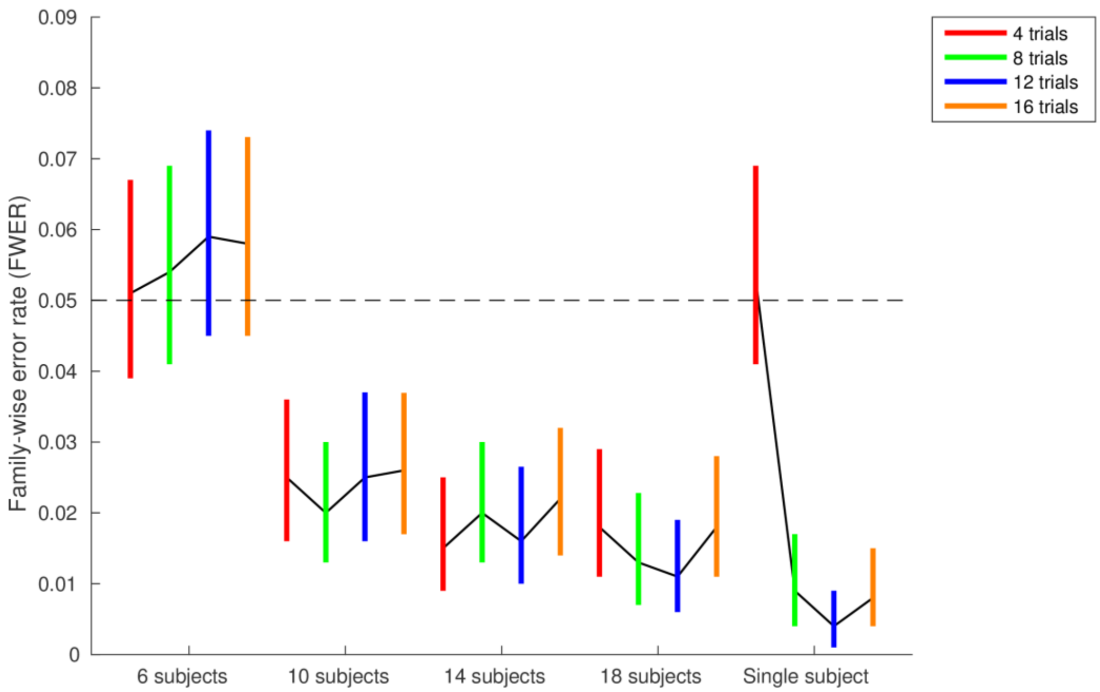

Figure S1. Mean FWER for synthetic data generated with noise sampled from a ***<u>Uniform</u>*** *distribution. Error-bars represent 95% btCI across MC simulations.*

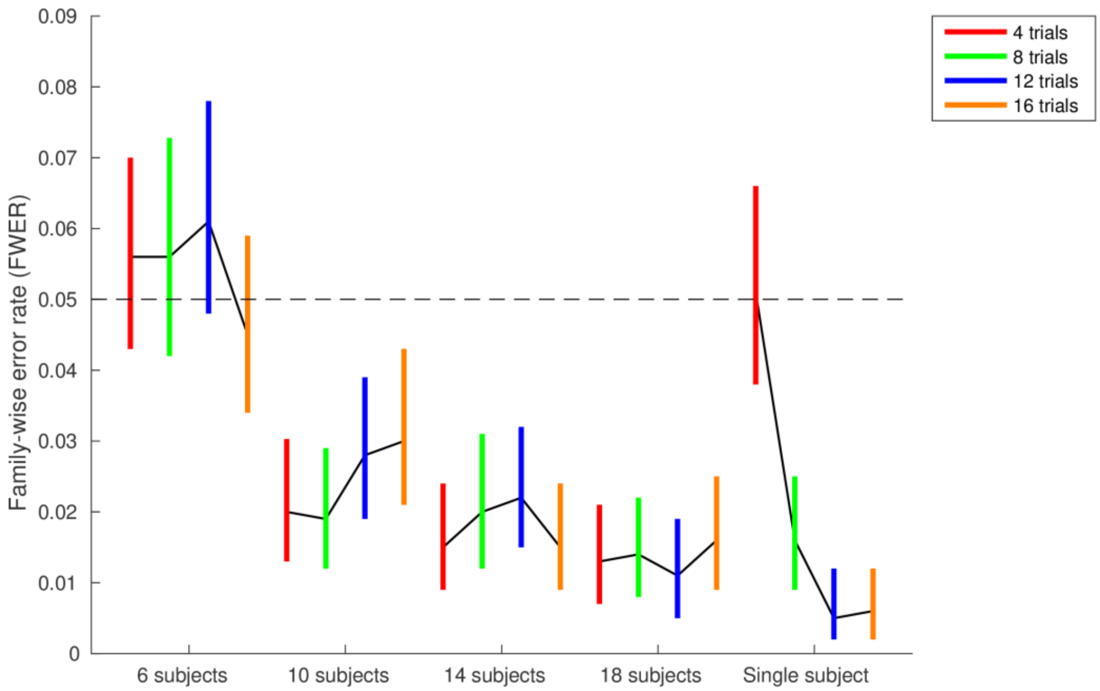

Figure S2. Mean FWER for synthetic data generated with noise sampled from an ***<u>Exponential</u>*** *distribution. Error-bars represent 95% btCI across MC simulations.*

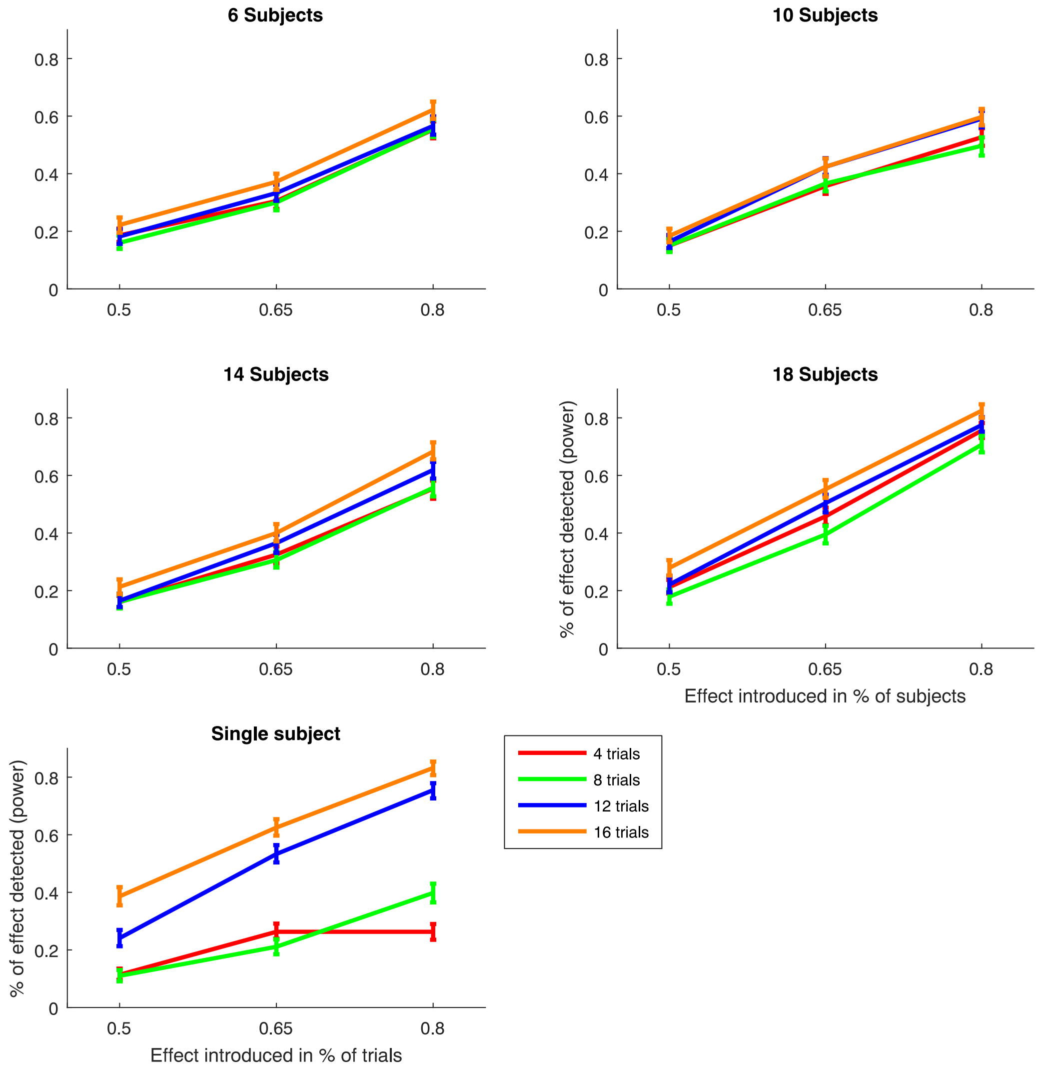

Figure S3. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Normal*** *distribution. Here we introduced a multivariate effect over 2 time-points, specifically TRs 5 and 6. Error-bars represent 95% btCI across MC simulations.*

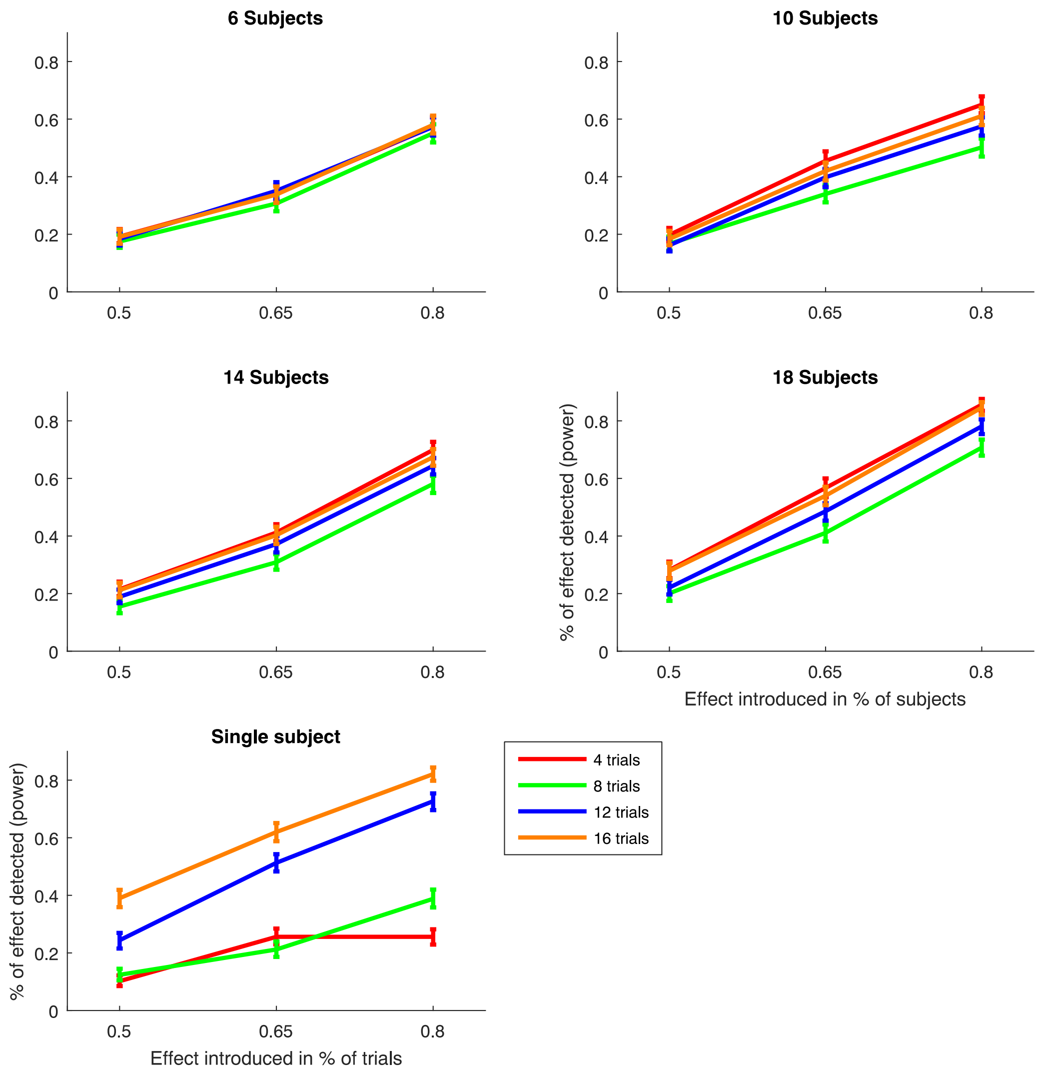

Figure S4. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Normal*** *distribution. Here we introduced a multivariate effect over 4 time-points, specifically TRs 5, 6, 7 and 8. Error-bars represent 95% btCI across MC simulations.*

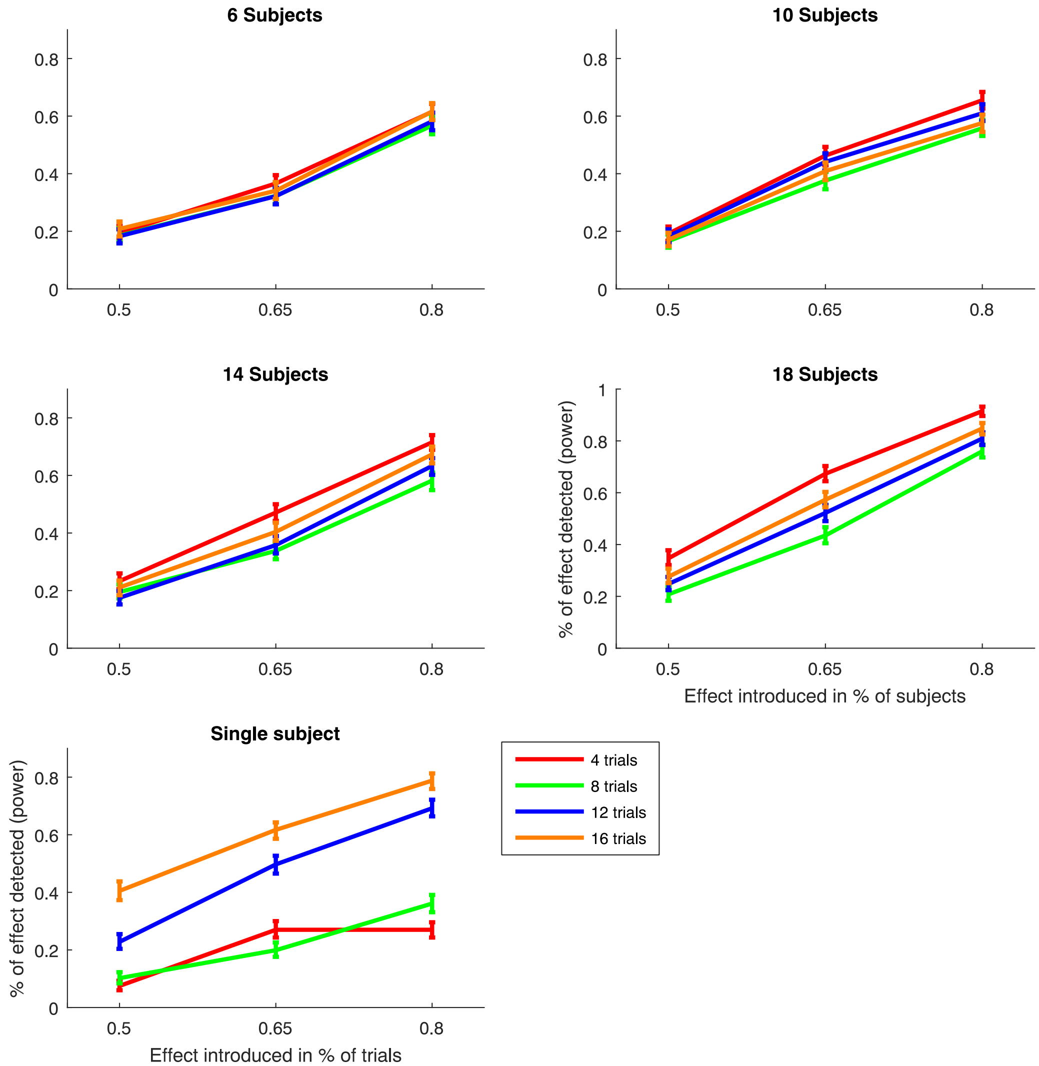

Figure S5. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***<u>Normal</u>*** *distribution. Here we introduced a multivariate effect over 5 time-points, specifically TRs 5, 6, 7, 8 and 9. Error-bars represent 95% btCI across MC simulations.*

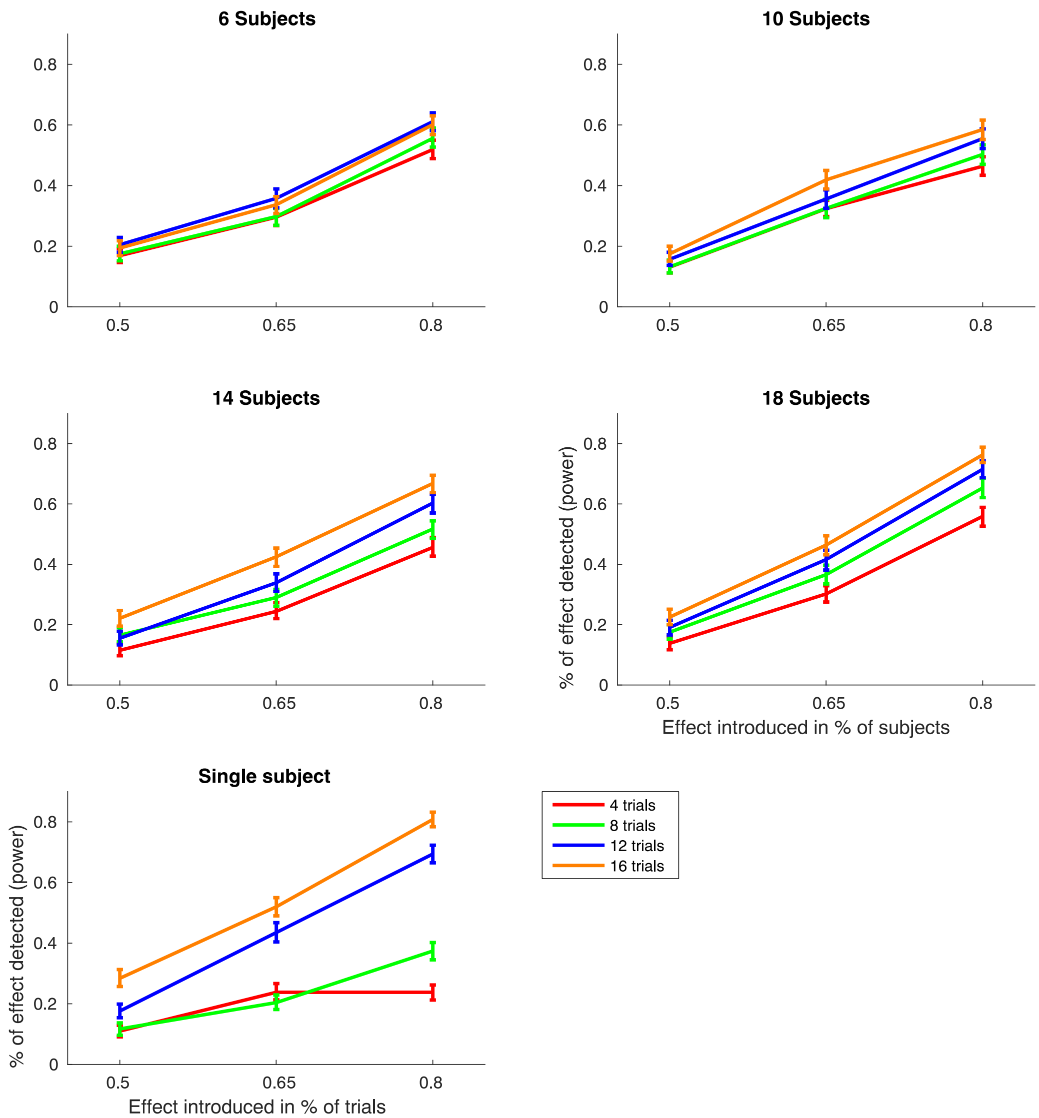

Figure S6. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Uniform*** *distribution. Here we introduced a multivariate effect over 2 time-points, specifically TRs 5 and 6. Error-bars represent 95% btCI across MC simulations.*

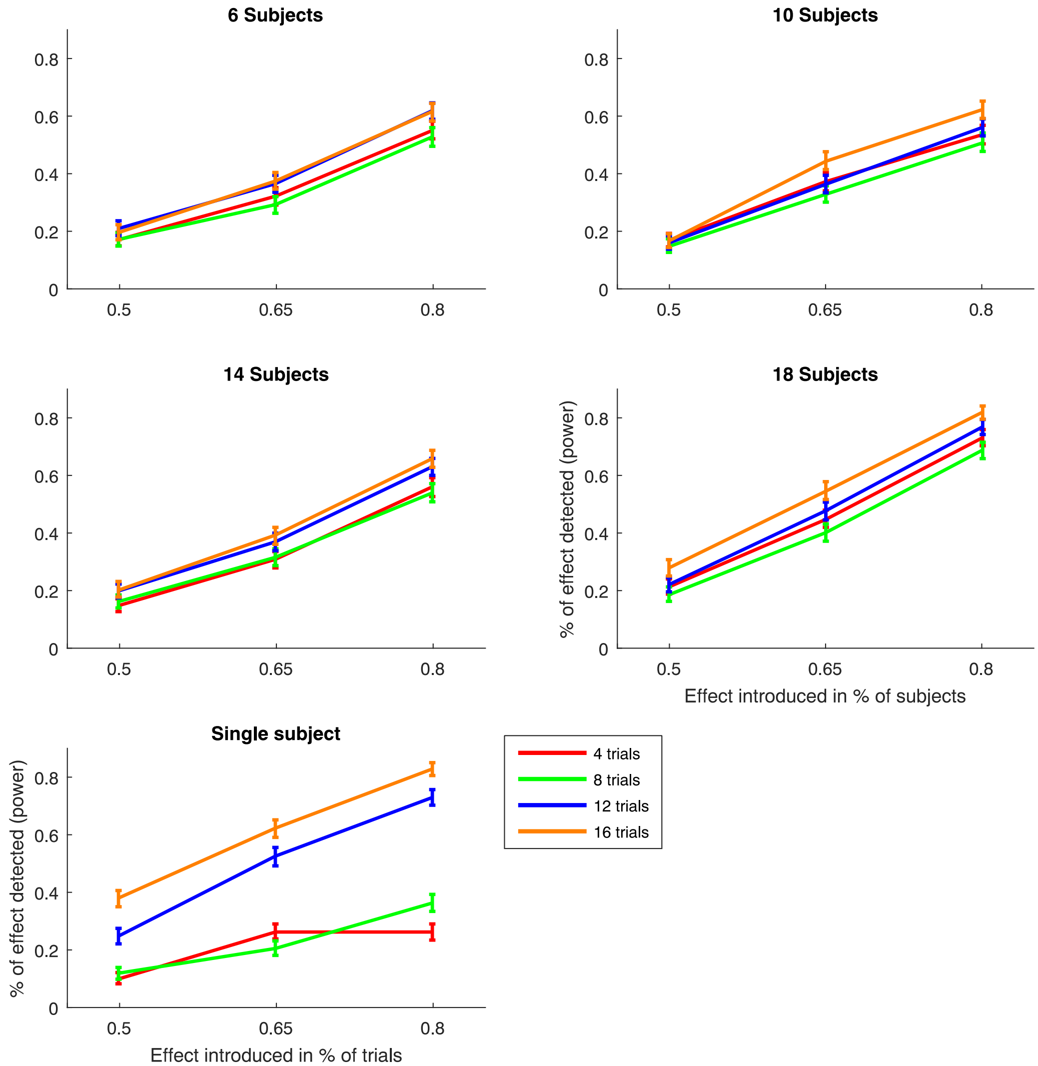

Figure S7. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Uniform*** *distribution. Here we introduced a multivariate effect over 3 time-points, specifically TRs 5, 6 and 7. Error-bars represent 95% btCI across MC simulations.*

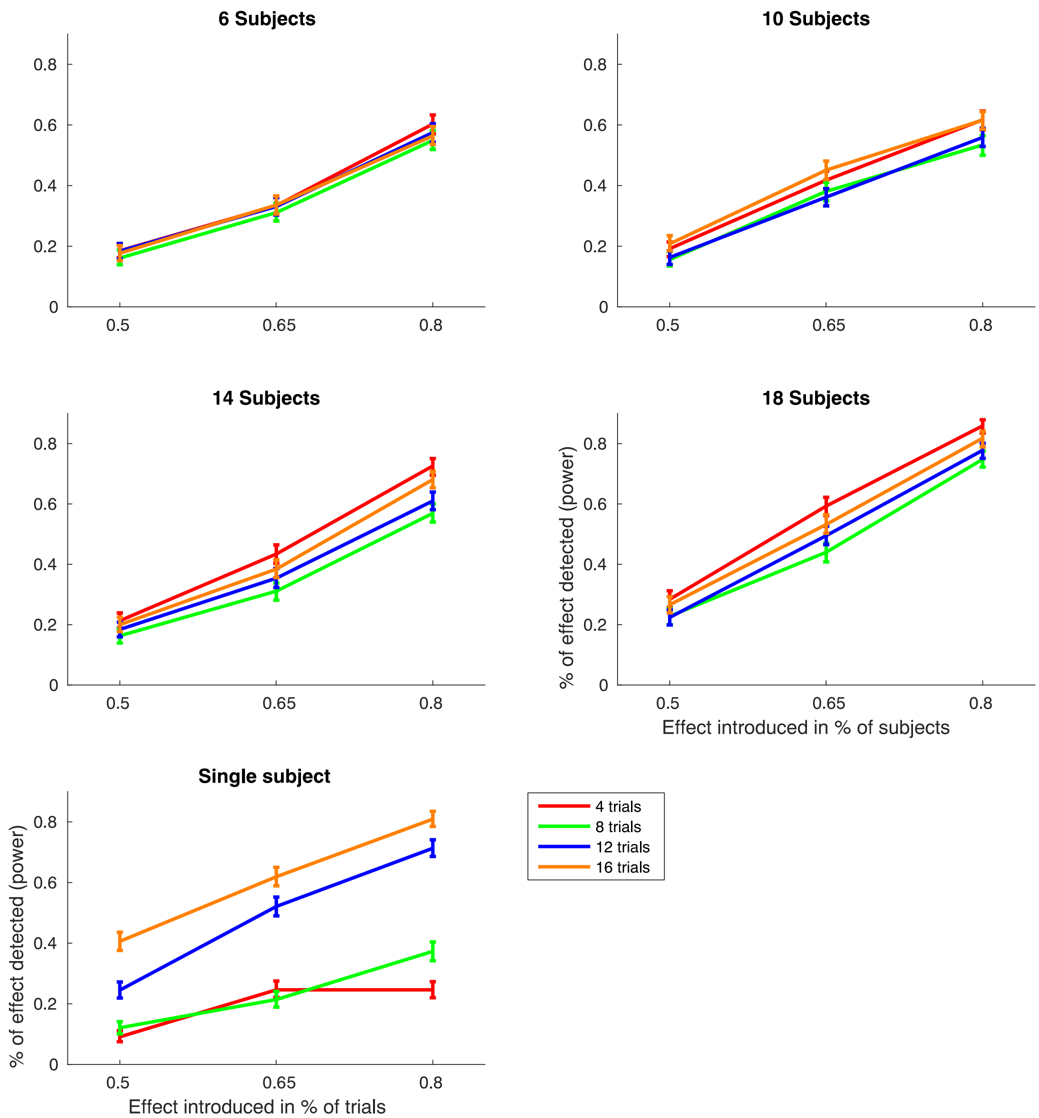

Figure S8. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Uniform*** *distribution. Here we introduced a multivariate effect over 4 time-points, specifically TRs 5, 6, 7 and 8. Error-bars represent 95% btCI across MC simulations.*

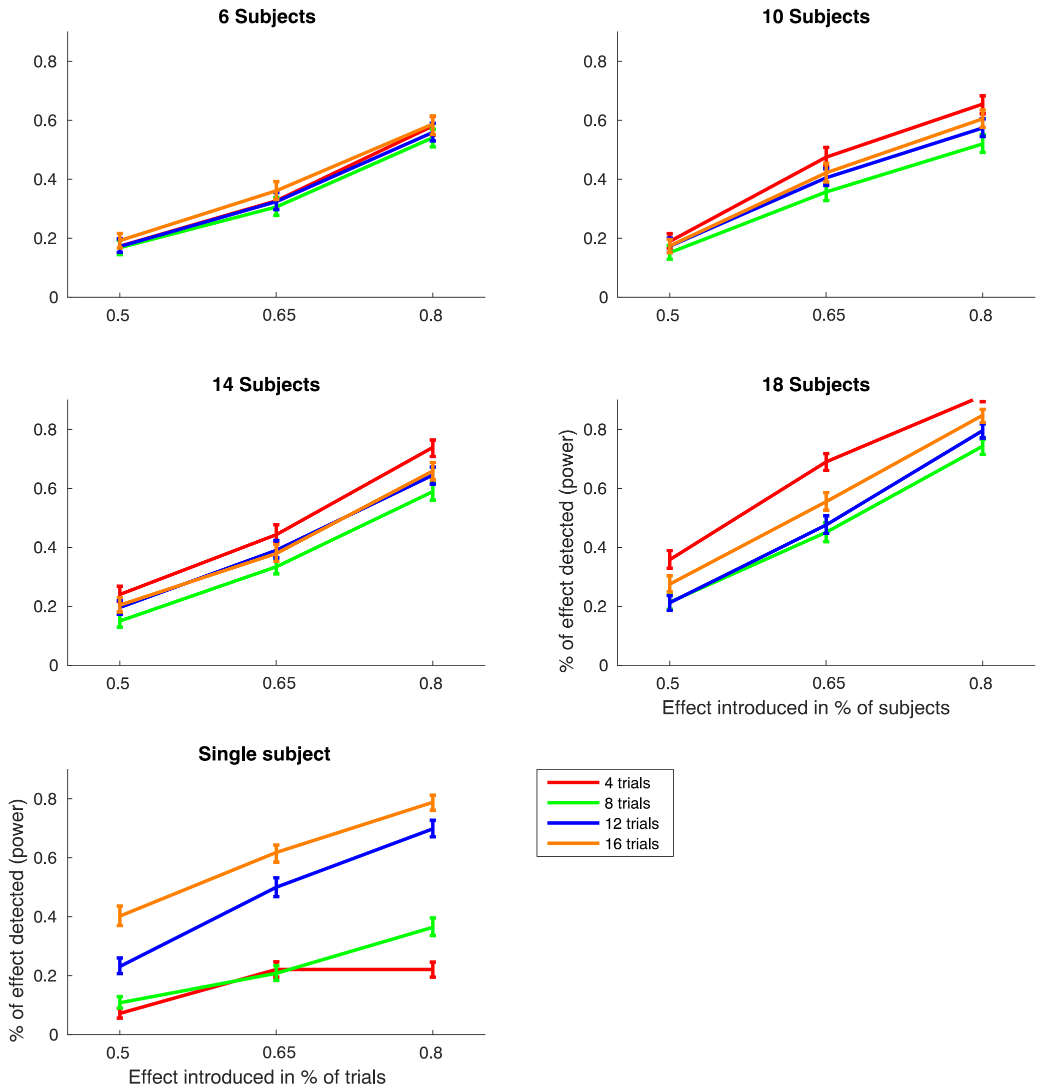

*Figure S9. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a **Uniform** distribution. Here we introduced a multivariate effect over 5 time-points, specifically TRs 5, 6, 7, 8 and 9. Error-bars represent 95% btCI across MC simulations.*

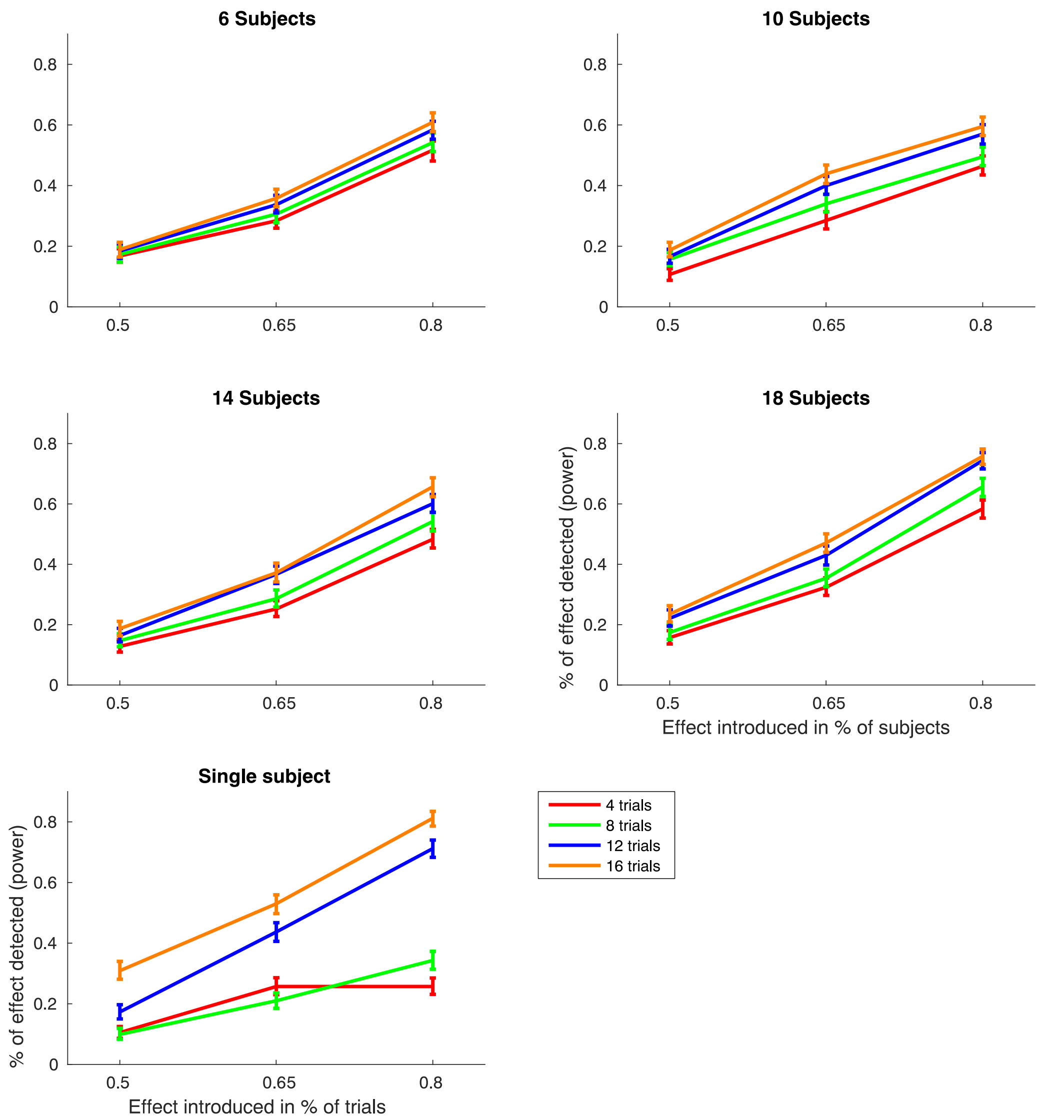

Figure S10. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***<u>Exponential</u>*** *distribution. Here we introduced a multivariate effect over 2 time-points, specifically TRs 5 and 6. Error-bars represent 95% btCI across MC simulations.*

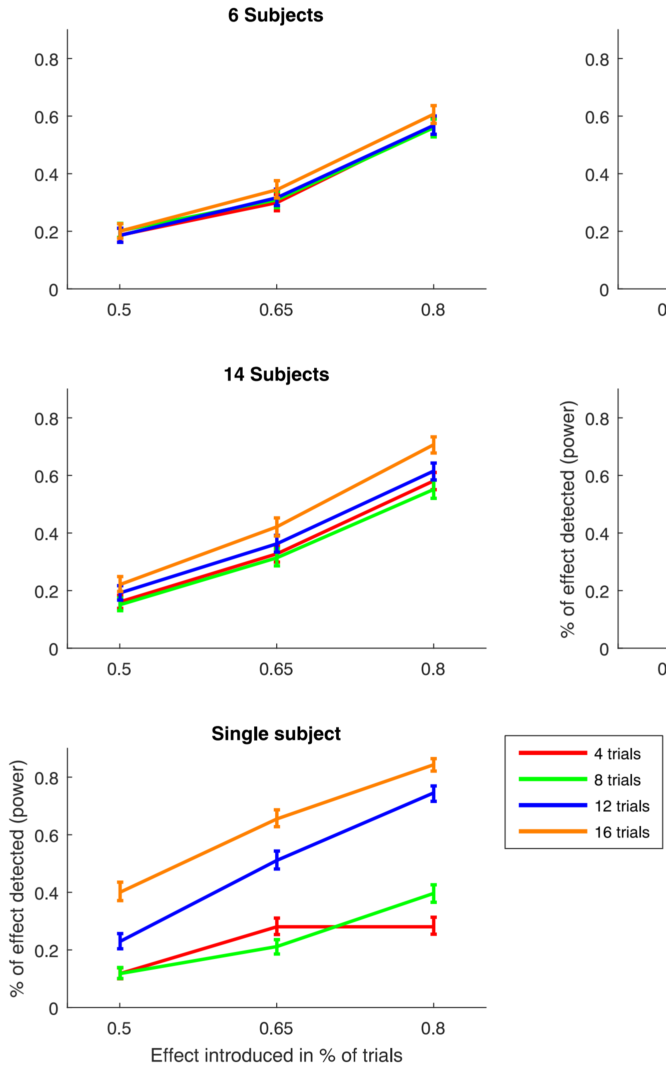

Figure S11. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Exponential*** *distribution. Here we introduced a multivariate effect over 3 time-points, specifically TRs 5, 6 and 7. Error-bars represent 95% btCI across MC simulations.*

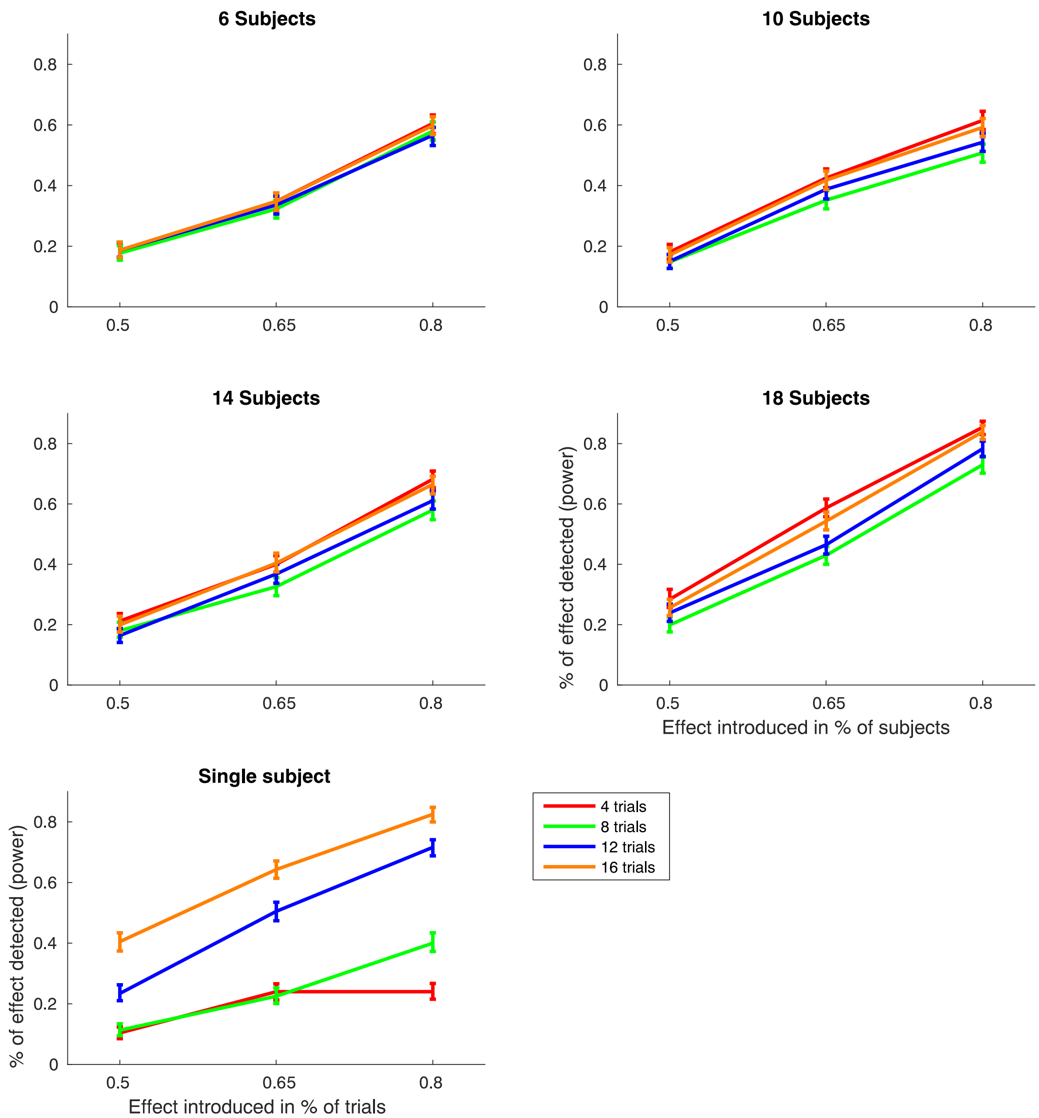

Figure S12. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Exponential*** *distribution. Here we introduced a multivariate effect over 4 time-points, specifically TRs 5, 6, 7 and 8. Error-bars represent 95% btCI across MC simulations.*

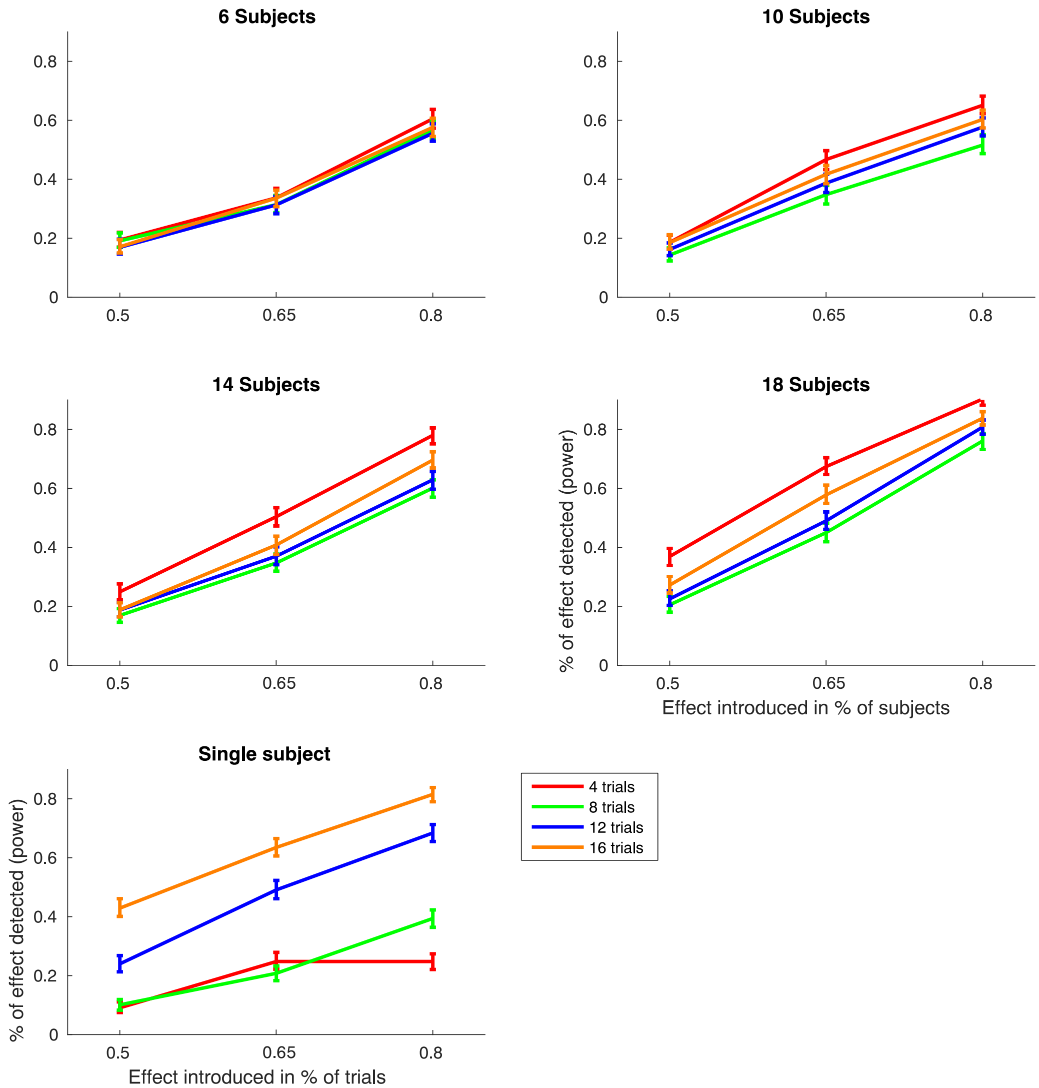

Figure S13. Mean Power of both the group and the single subject analysis estimated using synthetically generated data with noise sampled from a ***Exponential*** *distribution. Here we introduced a multivariate effect over 5 time-points, specifically TRs 5, 6, 7, 8 and 9. Error-bars represent 95% btCI across MC simulations.*

FWER	Lower CI	Upper CI	Number of Subjects	Number of Trials	Noise Distribution
0.058	0.045	0.074	6	4	normal
0.061	0.047	0.077	6	8	normal
0.056	0.042	0.070149	6	12	normal
0.056	0.043	0.071	6	16	normal
0.028	0.02	0.040828	10	4	normal
0.03	0.02	0.042	10	8	normal
0.027	0.018	0.038	10	12	normal
0.025	0.016	0.03576	10	16	normal
0.021	0.012	0.03	14	4	normal
0.022	0.014	0.032	14	8	normal
0.023	0.015	0.034	14	12	normal
0.021	0.014	0.032	14	16	normal
0.018	0.011	0.028	18	4	normal
0.02	0.013	0.03	18	8	normal
0.009	0.004	0.016	18	12	normal
0.014	0.008	0.023	18	16	normal
0.056	0.043	0.071	1	4	normal
0.012	0.007	0.019421	1	8	normal
0.006	0.002	0.013	1	12	normal
0.006	0.002	0.013	1	16	normal
0.051	0.037	0.066	6	4	uniform
0.054	0.041	0.07	6	8	uniform
0.059	0.046	0.076	6	12	uniform
0.058	0.044	0.074	6	16	uniform
0.025	0.016498	0.036418	10	4	uniform
0.02	0.013	0.03	10	8	uniform
0.025	0.017	0.036	10	12	uniform
0.026	0.017	0.037	10	16	uniform
0.015	0.009	0.025	14	4	uniform
0.02	0.012	0.029	14	8	uniform
0.016	0.009263	0.027	14	12	uniform
0.022	0.014	0.034	14	16	uniform
0.018	0.011	0.028	20	4	uniform
0.013	0.007	0.022	20	8	uniform
0.011	0.006	0.018	20	12	uniform
0.018	0.011	0.028683	20	16	uniform
0.053	0.041	0.068	1	4	uniform
0.009	0.005	0.016495	1	8	uniform
0.004	0.001	0.010129	1	12	uniform
0.008	0.004	0.015	1	16	uniform

0.056	0.043	0.07	6	4	exponential
0.056	0.043792	0.075	6	8	exponential
0.061	0.048	0.077	6	12	exponential
0.045	0.033	0.059	6	16	exponential
0.02	0.013	0.031	10	4	exponential
0.019	0.011	0.028	10	8	exponential
0.028	0.019	0.039	10	12	exponential
0.03	0.02	0.042	10	16	exponential
0.015	0.009	0.023271	14	4	exponential
0.02	0.013	0.031	14	8	exponential
0.022	0.014	0.033	14	12	exponential
0.015	0.009	0.025	14	16	exponential
0.013	0.008	0.023	20	4	exponential
0.014	0.007	0.023	20	8	exponential
0.011	0.005547	0.02	20	12	exponential
0.016	0.009	0.025	20	16	exponential
0.051	0.039	0.066081	1	4	exponential
0.016	0.01	0.026	1	8	exponential
0.005	0.002	0.011	1	12	exponential
0.006	0.003	0.012957	1	16	exponential

Supplemental Table 1: FWER of our approach for all parameters of the MC simulation.

Power	Lower CI	Upper CI	Number of Subjects	Number of Trials	Target Effect	Noise Distribution
0.186	0.163	0.209265	6	4	0.5	Normal
0.305	0.277579	0.334477	6	4	0.65	Normal
0.553	0.523	0.581737	6	4	0.8	normal
0.16	0.139	0.185	6	8	0.5	normal
0.3	0.273	0.33	6	8	0.65	normal
0.555	0.527566	0.586993	6	8	0.8	normal
0.182	0.156	0.207	6	12	0.5	normal
0.333	0.306	0.362	6	12	0.65	normal
0.566	0.535548	0.599	6	12	0.8	normal
0.222	0.195	0.248	6	16	0.5	normal
0.372	0.344	0.4	6	16	0.65	normal
0.622	0.590336	0.650301	6	16	0.8	normal
0.15	0.131	0.174	10	4	0.5	normal
0.357	0.33	0.389701	10	4	0.65	normal
0.527	0.497	0.558	10	4	0.8	normal
0.151	0.128	0.174642	10	8	0.5	normal
0.366	0.338844	0.394	10	8	0.65	normal
0.497	0.463	0.526167	10	8	0.8	normal
0.164	0.142	0.187	10	12	0.5	normal
0.424	0.396142	0.454	10	12	0.65	normal
0.591	0.561	0.618	10	12	0.8	normal
0.184	0.16215	0.209001	10	16	0.5	normal
0.424	0.391	0.453	10	16	0.65	normal
0.597	0.568	0.625	10	16	0.8	normal
0.16	0.14	0.182	14	4	0.5	normal
0.325	0.295	0.353	14	4	0.65	normal
0.554	0.519	0.582	14	4	0.8	normal
0.161	0.138	0.186	14	8	0.5	normal
0.306	0.28	0.335464	14	8	0.65	normal
0.557	0.527265	0.588	14	8	0.8	normal
0.165	0.143	0.189	14	12	0.5	normal
0.365	0.331	0.394	14	12	0.65	normal
0.619	0.589	0.647	14	12	0.8	normal
0.213	0.188266	0.239	14	16	0.5	normal
0.4	0.371253	0.431	14	16	0.65	normal
0.683	0.656	0.715	14	16	0.8	normal
0.212	0.19	0.23738	20	4	0.5	normal
0.458	0.428	0.488	20	4	0.65	normal
0.756	0.73	0.782	20	4	0.8	normal
0.179	0.154487	0.204	20	8	0.5	normal

0.395	0.364184	0.424966	20	8	0.65	normal
0.707	0.680221	0.738	20	8	0.8	normal
0.221	0.194	0.25	20	12	0.5	normal
0.504	0.471959	0.533	20	12	0.65	normal
0.775	0.752	0.802	20	12	0.8	normal
0.279	0.252675	0.306	20	16	0.5	normal
0.552	0.522	0.584	20	16	0.65	normal
0.825	0.8	0.847	20	16	0.8	normal
0.114	0.096	0.135	1	4	0.5	normal
0.263	0.239	0.291348	1	4	0.65	normal
0.263	0.235321	0.29	1	4	0.8	normal
0.11	0.091	0.13	1	8	0.5	normal
0.211	0.185	0.236767	1	8	0.65	normal
0.398	0.365127	0.43	1	8	0.8	normal
0.241	0.213	0.269347	1	12	0.5	normal
0.533	0.504	0.564	1	12	0.65	normal
0.755	0.726345	0.779	1	12	0.8	normal
0.386	0.355	0.418	1	16	0.5	normal
0.625	0.597	0.654	1	16	0.65	normal
0.832	0.807	0.854	1	16	0.8	normal
0.172	0.148	0.194703	6	4	0.5	uniform
0.323	0.296	0.353	6	4	0.65	uniform
0.552	0.52	0.581657	6	4	0.8	uniform
0.173	0.15	0.196	6	8	0.5	uniform
0.294	0.264	0.322	6	8	0.65	uniform
0.53	0.502	0.561	6	8	0.8	uniform
0.211	0.184906	0.239	6	12	0.5	uniform
0.367	0.337956	0.396631	6	12	0.65	uniform
0.621	0.593	0.652	6	12	0.8	uniform
0.197	0.173	0.223	6	16	0.5	uniform
0.376	0.346	0.404	6	16	0.65	uniform
0.618	0.586	0.648	6	16	0.8	uniform
0.17	0.148672	0.194	10	4	0.5	uniform
0.374	0.347	0.405	10	4	0.65	uniform
0.538	0.502484	0.569344	10	4	0.8	uniform
0.149	0.128	0.17	10	8	0.5	uniform
0.33	0.302	0.359	10	8	0.65	uniform
0.509	0.479	0.54	10	8	0.8	uniform
0.161	0.138	0.184	10	12	0.5	uniform
0.365	0.334	0.397	10	12	0.65	uniform
0.563	0.5324	0.592	10	12	0.8	uniform

0.168	0.145	0.196	10	16	0.5	uniform
0.445	0.415682	0.476	10	16	0.65	uniform
0.625	0.592782	0.653	10	16	0.8	uniform
0.15	0.129	0.172	14	4	0.5	uniform
0.311	0.281	0.339	14	4	0.65	uniform
0.563	0.534	0.594	14	4	0.8	uniform
0.164	0.141	0.189765	14	8	0.5	uniform
0.318	0.292	0.347	14	8	0.65	uniform
0.542	0.509	0.572204	14	8	0.8	uniform
0.201	0.178	0.229468	14	12	0.5	uniform
0.372	0.342654	0.40253	14	12	0.65	uniform
0.633	0.603	0.662	14	12	0.8	uniform
0.204	0.178415	0.232	14	16	0.5	uniform
0.395	0.366	0.427	14	16	0.65	uniform
0.661	0.63	0.69	14	16	0.8	uniform
0.215	0.191	0.239	20	4	0.5	uniform
0.45	0.420021	0.48	20	4	0.65	uniform
0.734	0.706	0.761	20	4	0.8	uniform
0.188	0.166	0.21	20	8	0.5	uniform
0.404	0.374778	0.434	20	8	0.65	uniform
0.691	0.665	0.717	20	8	0.8	uniform
0.223	0.197136	0.248	20	12	0.5	uniform
0.48	0.447	0.510855	20	12	0.65	uniform
0.772	0.744	0.797	20	12	0.8	uniform
0.281	0.252	0.30665	20	16	0.5	uniform
0.548	0.516499	0.577177	20	16	0.65	uniform
0.823	0.799	0.843	20	16	0.8	uniform
0.102	0.084	0.122	1	4	0.5	uniform
0.265	0.239	0.29	1	4	0.65	uniform
0.265	0.237	0.293298	1	4	0.8	uniform
0.122	0.104	0.145	1	8	0.5	uniform
0.208	0.183623	0.234	1	8	0.65	uniform
0.366	0.335	0.398	1	8	0.8	uniform
0.251	0.222257	0.279	1	12	0.5	uniform
0.529	0.498	0.559856	1	12	0.65	uniform
0.733	0.706	0.758	1	12	0.8	uniform
0.383	0.355	0.415	1	16	0.5	uniform
0.626	0.597	0.658	1	16	0.65	uniform
0.832	0.806	0.853	1	16	0.8	uniform
0.185	0.160541	0.21054	6	4	0.5	exponential
0.298	0.271	0.332	6	4	0.65	exponential

0.567	0.53669	0.598	6	4	0.8	exponential
0.2	0.177	0.225	6	8	0.5	exponential
0.308	0.28	0.34	6	8	0.65	exponential
0.559	0.527	0.587437	6	8	0.8	exponential
0.184	0.159	0.207562	6	12	0.5	exponential
0.315	0.283702	0.342	6	12	0.65	exponential
0.567	0.536031	0.596843	6	12	0.8	exponential
0.199	0.176	0.225538	6	16	0.5	exponential
0.343	0.314	0.374	6	16	0.65	exponential
0.606	0.575	0.636	6	16	0.8	exponential
0.162	0.14	0.186	10	4	0.5	exponential
0.357	0.327	0.388	10	4	0.65	exponential
0.526	0.497	0.56	10	4	0.8	exponential
0.151	0.129	0.173	10	8	0.5	exponential
0.334	0.305	0.365	10	8	0.65	exponential
0.505	0.472	0.535	10	8	0.8	exponential
0.168	0.146	0.193	10	12	0.5	exponential
0.398	0.365462	0.428433	10	12	0.65	exponential
0.57	0.541	0.602	10	12	0.8	exponential
0.194	0.171198	0.223456	10	16	0.5	exponential
0.416	0.38434	0.448	10	16	0.65	exponential
0.614	0.584	0.642	10	16	0.8	exponential
0.159	0.138	0.183	14	4	0.5	exponential
0.326	0.297	0.354	14	4	0.65	exponential
0.58	0.547	0.611	14	4	0.8	exponential
0.149	0.128	0.172411	14	8	0.5	exponential
0.312	0.285	0.344	14	8	0.65	exponential
0.55	0.51612	0.579	14	8	0.8	exponential
0.19	0.166173	0.214	14	12	0.5	exponential
0.361	0.331255	0.39	14	12	0.65	exponential
0.614	0.584	0.642	14	12	0.8	exponential
0.219	0.195	0.247	14	16	0.5	exponential
0.42	0.388221	0.45	14	16	0.65	exponential
0.706	0.677	0.733764	14	16	0.8	exponential
0.232	0.205	0.257626	20	4	0.5	exponential
0.466	0.436	0.496174	20	4	0.65	exponential
0.76	0.733	0.784523	20	4	0.8	exponential
0.186	0.163	0.212	20	8	0.5	exponential
0.391	0.364	0.42	20	8	0.65	exponential
0.695	0.668	0.722762	20	8	0.8	exponential
0.228	0.202552	0.253121	20	12	0.5	exponential

0.477	0.447	0.505	20	12	0.65	exponential
0.793	0.766	0.816	20	12	0.8	exponential
0.266	0.239	0.292	20	16	0.5	exponential
0.541	0.512	0.573	20	16	0.65	exponential
0.824	0.802	0.846	20	16	0.8	exponential
0.115	0.097	0.135	1	4	0.5	exponential
0.278	0.251	0.307	1	4	0.65	exponential
0.278	0.249455	0.306	1	4	0.8	exponential
0.115	0.096	0.135	1	8	0.5	exponential
0.209	0.186787	0.234832	1	8	0.65	exponential
0.394	0.363	0.425	1	8	0.8	exponential
0.227	0.204	0.256	1	12	0.5	exponential
0.509	0.477	0.539	1	12	0.65	exponential
0.744	0.714	0.768	1	12	0.8	exponential
0.398	0.367078	0.429	1	16	0.5	exponential
0.653	0.626	0.682	1	16	0.65	exponential
0.842	0.818	0.864866	1	16	0.8	exponential

Supplemental Table 2. Power of our approach for the synthetic data with the multivariate effect introduced over 2 time-points, specifically TRs 5 and 6. We report values for all trials numbers, subject groups, noise distributions and % of data showing the effect.

Power	Lower CI	Upper CI	Number of Subjects	Number of Trials	Target Effect	Noise Distribution
0.154	0.134	0.177	6	4	0.5	normal
0.271	0.245	0.3	6	4	0.65	normal
0.517	0.486	0.547948	6	4	0.8	normal
0.157	0.137	0.183	6	8	0.5	normal
0.294	0.266	0.324274	6	8	0.65	normal
0.518	0.486	0.547	6	8	0.8	normal
0.196	0.172	0.222	6	12	0.5	normal
0.335	0.308	0.366926	6	12	0.65	normal
0.588	0.557	0.618818	6	12	0.8	normal
0.186	0.162	0.211	6	16	0.5	normal
0.344	0.315	0.375	6	16	0.65	normal
0.605	0.575	0.635	6	16	0.8	normal
0.136	0.114	0.157	10	4	0.5	normal
0.338	0.308767	0.366733	10	4	0.65	normal
0.491	0.461	0.521	10	4	0.8	normal
0.14	0.121	0.163	10	8	0.5	normal
0.355	0.326	0.38669	10	8	0.65	normal
0.503	0.47	0.533	10	8	0.8	normal
0.168	0.145	0.190731	10	12	0.5	normal
0.401	0.369699	0.433566	10	12	0.65	normal
0.569	0.538	0.598723	10	12	0.8	normal
0.18	0.157	0.205	10	16	0.5	normal
0.418	0.389	0.449	10	16	0.65	normal
0.59	0.56	0.62	10	16	0.8	normal
0.112	0.092	0.132	14	4	0.5	normal
0.24	0.214	0.266	14	4	0.65	normal
0.475	0.442	0.505	14	4	0.8	normal
0.157	0.135	0.18	14	8	0.5	normal
0.309	0.283307	0.33893	14	8	0.65	normal
0.547	0.512	0.575	14	8	0.8	normal
0.174	0.151	0.20025	14	12	0.5	normal
0.334	0.306217	0.364	14	12	0.65	normal
0.602	0.571	0.633	14	12	0.8	normal
0.189	0.165	0.214	14	16	0.5	normal
0.367	0.338918	0.395	14	16	0.65	normal
0.633	0.603	0.662	14	16	0.8	normal
0.146	0.124668	0.169	20	4	0.5	normal
0.328	0.301	0.358	20	4	0.65	normal
0.586	0.554	0.616724	20	4	0.8	normal
0.168	0.145	0.192979	20	8	0.5	normal

0.364	0.334	0.395	20	8	0.65	normal
0.661	0.629	0.692	20	8	0.8	normal
0.231	0.205	0.256	20	12	0.5	normal
0.48	0.448	0.511	20	12	0.65	normal
0.758	0.729839	0.783	20	12	0.8	normal
0.271	0.243	0.298562	20	16	0.5	normal
0.517	0.486	0.546	20	16	0.65	normal
0.785	0.76	0.811	20	16	0.8	normal
0.104	0.086	0.125	1	4	0.5	normal
0.239	0.214	0.26634	1	4	0.65	normal
0.239	0.212	0.266	1	4	0.8	normal
0.104	0.087	0.125	1	8	0.5	normal
0.213	0.187	0.238	1	8	0.65	normal
0.349	0.321	0.379	1	8	0.8	normal
0.171	0.149	0.198	1	12	0.5	normal
0.418	0.387	0.448	1	12	0.65	normal
0.719	0.691	0.747	1	12	0.8	normal
0.284	0.256	0.311	1	16	0.5	normal
0.51	0.477	0.538	1	16	0.65	normal
0.804	0.778	0.827	1	16	0.8	normal
0.169	0.146	0.192	6	4	0.5	uniform
0.296	0.269	0.328513	6	4	0.65	uniform
0.519	0.491	0.55	6	4	0.8	uniform
0.175	0.152	0.2	6	8	0.5	uniform
0.298	0.273	0.330169	6	8	0.65	uniform
0.556	0.525	0.587	6	8	0.8	uniform
0.205	0.18	0.23	6	12	0.5	uniform
0.358	0.328	0.389821	6	12	0.65	uniform
0.611	0.584	0.641	6	12	0.8	uniform
0.194	0.171	0.220338	6	16	0.5	uniform
0.337	0.308	0.36723	6	16	0.65	uniform
0.601	0.568	0.632411	6	16	0.8	uniform
0.131	0.113	0.154	10	4	0.5	uniform
0.324	0.29595	0.354	10	4	0.65	uniform
0.464	0.433	0.494328	10	4	0.8	uniform
0.132	0.109	0.153	10	8	0.5	uniform
0.325	0.297	0.354	10	8	0.65	uniform
0.503	0.473	0.534	10	8	0.8	uniform
0.157	0.136	0.18	10	12	0.5	uniform
0.356	0.325199	0.382	10	12	0.65	uniform
0.555	0.522	0.585	10	12	0.8	uniform

0.175	0.152	0.201	10	16	0.5	uniform
0.419	0.389	0.448	10	16	0.65	uniform
0.585	0.550304	0.614	10	16	0.8	uniform
0.115	0.094714	0.135	14	4	0.5	uniform
0.244	0.217321	0.271	14	4	0.65	uniform
0.456	0.42503	0.488	14	4	0.8	uniform
0.165	0.143	0.188	14	8	0.5	uniform
0.29	0.263	0.319	14	8	0.65	uniform
0.517	0.486	0.55	14	8	0.8	uniform
0.155	0.133	0.177	14	12	0.5	uniform
0.339	0.309685	0.369	14	12	0.65	uniform
0.603	0.574	0.633	14	12	0.8	uniform
0.221	0.195	0.246	14	16	0.5	uniform
0.425	0.395	0.455	14	16	0.65	uniform
0.668	0.638	0.695564	14	16	0.8	uniform
0.138	0.117569	0.16	20	4	0.5	uniform
0.302	0.272584	0.331497	20	4	0.65	uniform
0.559	0.528561	0.589	20	4	0.8	uniform
0.175	0.152	0.2	20	8	0.5	uniform
0.366	0.334125	0.397	20	8	0.65	uniform
0.653	0.624	0.685	20	8	0.8	uniform
0.191	0.168	0.217	20	12	0.5	uniform
0.416	0.386	0.447	20	12	0.65	uniform
0.715	0.686	0.743959	20	12	0.8	uniform
0.225	0.2	0.251	20	16	0.5	uniform
0.464	0.432	0.496867	20	16	0.65	uniform
0.763	0.737914	0.787	20	16	0.8	uniform
0.11	0.091	0.132	1	4	0.5	uniform
0.238	0.21117	0.268	1	4	0.65	uniform
0.238	0.211	0.267	1	4	0.8	uniform
0.117	0.098856	0.138	1	8	0.5	uniform
0.204	0.178541	0.228794	1	8	0.65	uniform
0.374	0.344	0.404	1	8	0.8	uniform
0.176	0.154	0.199	1	12	0.5	uniform
0.435	0.401	0.464	1	12	0.65	uniform
0.694	0.666	0.721	1	12	0.8	uniform
0.284	0.254	0.312	1	16	0.5	uniform
0.52	0.489	0.548205	1	16	0.65	uniform
0.808	0.783	0.830532	1	16	0.8	uniform
0.168	0.147	0.194	6	4	0.5	exponential
0.284	0.26	0.312967	6	4	0.65	exponential

0.517	0.485	0.548	6	4	0.8	exponential
0.173	0.15	0.198	6	8	0.5	exponential
0.306	0.275085	0.332	6	8	0.65	exponential
0.542	0.512865	0.572032	6	8	0.8	exponential
0.184	0.161552	0.208	6	12	0.5	exponential
0.337	0.307	0.366135	6	12	0.65	exponential
0.584	0.553	0.617194	6	12	0.8	exponential
0.189	0.167	0.212	6	16	0.5	exponential
0.358	0.331	0.391	6	16	0.65	exponential
0.609	0.58	0.64	6	16	0.8	exponential
0.107	0.089	0.127	10	4	0.5	exponential
0.285	0.257	0.313	10	4	0.65	exponential
0.464	0.433378	0.497	10	4	0.8	exponential
0.157	0.133	0.182	10	8	0.5	exponential
0.34	0.31	0.370695	10	8	0.65	exponential
0.495	0.464	0.527	10	8	0.8	exponential
0.166	0.145	0.19	10	12	0.5	exponential
0.4	0.368	0.429	10	12	0.65	exponential
0.57	0.541	0.600038	10	12	0.8	exponential
0.187	0.162362	0.213	10	16	0.5	exponential
0.439	0.407	0.465	10	16	0.65	exponential
0.595	0.564	0.626	10	16	0.8	exponential
0.128	0.107	0.151	14	4	0.5	exponential
0.252	0.225	0.281552	14	4	0.65	exponential
0.483	0.453	0.516275	14	4	0.8	exponential
0.147	0.126	0.173	14	8	0.5	exponential
0.286	0.255597	0.312	14	8	0.65	exponential
0.542	0.507405	0.571	14	8	0.8	exponential
0.164	0.14	0.188	14	12	0.5	exponential
0.367	0.337132	0.394	14	12	0.65	exponential
0.601	0.570192	0.631	14	12	0.8	exponential
0.187	0.164	0.212	14	16	0.5	exponential
0.372	0.342	0.401	14	16	0.65	exponential
0.657	0.626	0.685	14	16	0.8	exponential
0.157	0.134	0.18	20	4	0.5	exponential
0.324	0.296	0.352658	20	4	0.65	exponential
0.584	0.552	0.612536	20	4	0.8	exponential
0.174	0.151261	0.197	20	8	0.5	exponential
0.354	0.325	0.381133	20	8	0.65	exponential
0.657	0.629316	0.687	20	8	0.8	exponential
0.221	0.197767	0.246	20	12	0.5	exponential

0.43	0.402	0.460781	20	12	0.65	exponential
0.744	0.715	0.771	20	12	0.8	exponential
0.235	0.210718	0.261	20	16	0.5	exponential
0.471	0.439	0.502	20	16	0.65	exponential
0.758	0.732	0.783	20	16	0.8	exponential
0.105	0.089	0.126	1	4	0.5	exponential
0.257	0.23	0.284	1	4	0.65	exponential
0.257	0.229	0.283	1	4	0.8	exponential
0.099	0.081	0.119	1	8	0.5	exponential
0.21	0.186	0.237	1	8	0.65	exponential
0.343	0.314451	0.372	1	8	0.8	exponential
0.173	0.151	0.197965	1	12	0.5	exponential
0.437	0.407	0.468	1	12	0.65	exponential
0.712	0.688342	0.739842	1	12	0.8	exponential
0.309	0.281	0.335	1	16	0.5	exponential
0.53	0.501	0.562	1	16	0.65	exponential
0.812	0.785935	0.836	1	16	0.8	exponential

Supplemental Table 3. Power of our approach for the synthetic data with the multivariate effect introduced over 3 time-points, specifically TRs 5, 6 and 7. We report values for all trials numbers, subject groups, noise distributions and % of data showing the effect.

Power	Lower CI	Upper CI	Number of Subjects	Number of Trials	Target Effect	Noise Distribution
0.192	0.169	0.218227	6	4	0.5	normal
0.342	0.315	0.37	6	4	0.65	normal
0.574	0.543	0.606	6	4	0.8	normal
0.175	0.153	0.199	6	8	0.5	normal
0.307	0.28	0.336	6	8	0.65	normal
0.551	0.519	0.582	6	8	0.8	normal
0.184	0.161	0.210626	6	12	0.5	normal
0.351	0.321404	0.381	6	12	0.65	normal
0.573	0.543	0.606	6	12	0.8	normal
0.191	0.167	0.216958	6	16	0.5	normal
0.338	0.309	0.366	6	16	0.65	normal
0.58	0.55	0.612	6	16	0.8	normal
0.198	0.175	0.222	10	4	0.5	normal
0.455	0.423	0.488	10	4	0.65	normal
0.65	0.620633	0.679	10	4	0.8	normal
0.167	0.144	0.191929	10	8	0.5	normal
0.34	0.311	0.37	10	8	0.65	normal
0.502	0.4699	0.532296	10	8	0.8	normal
0.162	0.140681	0.185485	10	12	0.5	normal
0.398	0.363612	0.427	10	12	0.65	normal
0.575	0.542909	0.606	10	12	0.8	normal
0.184	0.161848	0.212	10	16	0.5	normal
0.42	0.386624	0.449	10	16	0.65	normal
0.611	0.579144	0.639	10	16	0.8	normal
0.215	0.191	0.241537	14	4	0.5	normal
0.412	0.382	0.441	14	4	0.65	normal
0.699	0.669902	0.727	14	4	0.8	normal
0.155	0.132	0.18	14	8	0.5	normal
0.309	0.283	0.337	14	8	0.65	normal
0.581	0.549482	0.609	14	8	0.8	normal
0.189	0.167	0.214	14	12	0.5	normal
0.372	0.343	0.4	14	12	0.65	normal
0.644	0.614	0.671	14	12	0.8	normal
0.212	0.187	0.238	14	16	0.5	normal
0.403	0.372268	0.432	14	16	0.65	normal
0.674	0.644	0.702	14	16	0.8	normal
0.282	0.253452	0.311	20	4	0.5	normal
0.567	0.535	0.6	20	4	0.65	normal
0.856	0.835	0.876	20	4	0.8	normal
0.201	0.174908	0.225795	20	8	0.5	normal

0.411	0.381	0.44	20	8	0.65	normal
0.707	0.679	0.734908	20	8	0.8	normal
0.221	0.197	0.248	20	12	0.5	normal
0.486	0.453364	0.514	20	12	0.65	normal
0.781	0.754069	0.805	20	12	0.8	normal
0.279	0.251	0.307	20	16	0.5	normal
0.54	0.507067	0.571	20	16	0.65	normal
0.846	0.821	0.865	20	16	0.8	normal
0.102	0.085	0.121935	1	4	0.5	normal
0.256	0.23	0.284592	1	4	0.65	normal
0.256	0.228989	0.282	1	4	0.8	normal
0.124	0.105	0.145	1	8	0.5	normal
0.212	0.186223	0.24	1	8	0.65	normal
0.388	0.358	0.42	1	8	0.8	normal
0.244	0.215291	0.269467	1	12	0.5	normal
0.513	0.483	0.542875	1	12	0.65	normal
0.727	0.696	0.754	1	12	0.8	normal
0.39	0.359	0.419	1	16	0.5	normal
0.62	0.588	0.651	1	16	0.65	normal
0.821	0.798	0.844	1	16	0.8	normal
0.185	0.162	0.211533	6	4	0.5	uniform
0.334	0.304	0.361	6	4	0.65	uniform
0.603	0.573	0.635	6	4	0.8	uniform
0.161	0.139	0.184033	6	8	0.5	uniform
0.311	0.282542	0.340442	6	8	0.65	uniform
0.549	0.52	0.582	6	8	0.8	uniform
0.184	0.16	0.207	6	12	0.5	uniform
0.331	0.303763	0.361	6	12	0.65	uniform
0.575	0.545	0.607	6	12	0.8	uniform
0.177	0.155	0.203	6	16	0.5	uniform
0.336	0.308	0.367	6	16	0.65	uniform
0.564	0.532	0.596	6	16	0.8	uniform
0.192	0.168187	0.218	10	4	0.5	uniform
0.418	0.39	0.45	10	4	0.65	uniform
0.617	0.585	0.647	10	4	0.8	uniform
0.156	0.133	0.179	10	8	0.5	uniform
0.381	0.350381	0.409	10	8	0.65	uniform
0.534	0.502717	0.566	10	8	0.8	uniform
0.163	0.141	0.189	10	12	0.5	uniform
0.362	0.332	0.393	10	12	0.65	uniform
0.559	0.531	0.59	10	12	0.8	uniform

0.208	0.185	0.237	10	16	0.5	uniform
0.451	0.422	0.482	10	16	0.65	uniform
0.616	0.587	0.647	10	16	0.8	uniform
0.213	0.188	0.238	14	4	0.5	uniform
0.434	0.402	0.467	14	4	0.65	uniform
0.726	0.698	0.753	14	4	0.8	uniform
0.163	0.139384	0.187	14	8	0.5	uniform
0.311	0.283	0.338	14	8	0.65	uniform
0.569	0.538	0.600186	14	8	0.8	uniform
0.184	0.161	0.209	14	12	0.5	uniform
0.354	0.325	0.383	14	12	0.65	uniform
0.61	0.577	0.638514	14	12	0.8	uniform
0.2	0.176	0.228652	14	16	0.5	uniform
0.384	0.354	0.413	14	16	0.65	uniform
0.681	0.654	0.709	14	16	0.8	uniform
0.284	0.257559	0.313	20	4	0.5	uniform
0.593	0.559692	0.622	20	4	0.65	uniform
0.859	0.836	0.879	20	4	0.8	uniform
0.228	0.202	0.253	20	8	0.5	uniform
0.44	0.409	0.47064	20	8	0.65	uniform
0.748	0.721	0.775	20	8	0.8	uniform
0.224	0.2	0.249	20	12	0.5	uniform
0.495	0.463	0.527237	20	12	0.65	uniform
0.778	0.749	0.803	20	12	0.8	uniform
0.266	0.24	0.295	20	16	0.5	uniform
0.532	0.501	0.560913	20	16	0.65	uniform
0.818	0.793256	0.842942	20	16	0.8	uniform
0.091	0.075	0.109	1	4	0.5	uniform
0.246	0.222	0.273	1	4	0.65	uniform
0.246	0.219	0.272	1	4	0.8	uniform
0.121	0.104	0.143	1	8	0.5	uniform
0.214	0.19	0.240177	1	8	0.65	uniform
0.373	0.345	0.406811	1	8	0.8	uniform
0.245	0.218	0.272913	1	12	0.5	uniform
0.521	0.49	0.552112	1	12	0.65	uniform
0.713	0.685	0.74	1	12	0.8	uniform
0.406	0.376	0.437	1	16	0.5	uniform
0.619	0.589	0.648	1	16	0.65	uniform
0.809	0.783439	0.832	1	16	0.8	uniform
0.186	0.164277	0.21	6	4	0.5	exponential
0.348	0.321	0.3785	6	4	0.65	exponential

0.605	0.572	0.633	6	4	0.8	exponential
0.177	0.154	0.202	6	8	0.5	exponential
0.323	0.29578	0.352	6	8	0.65	exponential
0.58	0.549	0.611	6	8	0.8	exponential
0.187	0.162	0.212	6	12	0.5	exponential
0.336	0.306327	0.363	6	12	0.65	exponential
0.566	0.537	0.597176	6	12	0.8	exponential
0.187	0.165	0.211786	6	16	0.5	exponential
0.348	0.319	0.376	6	16	0.65	exponential
0.598	0.567	0.628467	6	16	0.8	exponential
0.181	0.156064	0.206	10	4	0.5	exponential
0.425	0.396	0.454	10	4	0.65	exponential
0.615	0.584	0.645388	10	4	0.8	exponential
0.148	0.127	0.169	10	8	0.5	exponential
0.352	0.323	0.384	10	8	0.65	exponential
0.508	0.48	0.541514	10	8	0.8	exponential
0.15	0.129497	0.173	10	12	0.5	exponential
0.388	0.358	0.417	10	12	0.65	exponential
0.543	0.51	0.573381	10	12	0.8	exponential
0.171	0.15	0.197	10	16	0.5	exponential
0.418	0.389	0.451	10	16	0.65	exponential
0.592	0.561	0.623	10	16	0.8	exponential
0.212	0.18741	0.239	14	4	0.5	exponential
0.4	0.37	0.431	14	4	0.65	exponential
0.682	0.652	0.709	14	4	0.8	exponential
0.18	0.156712	0.202	14	8	0.5	exponential
0.326	0.297	0.356	14	8	0.65	exponential
0.58	0.547	0.609	14	8	0.8	exponential
0.164	0.142	0.186	14	12	0.5	exponential
0.368	0.338	0.401	14	12	0.65	exponential
0.611	0.582	0.641	14	12	0.8	exponential
0.199	0.175	0.227	14	16	0.5	exponential
0.404	0.375	0.435	14	16	0.65	exponential
0.665	0.634	0.691	14	16	0.8	exponential
0.284	0.257029	0.311	20	4	0.5	exponential
0.587	0.557	0.618	20	4	0.65	exponential
0.854	0.83	0.874	20	4	0.8	exponential
0.199	0.175	0.225	20	8	0.5	exponential
0.43	0.398	0.461	20	8	0.65	exponential
0.73	0.700029	0.757	20	8	0.8	exponential
0.239	0.216	0.267	20	12	0.5	exponential

0.465	0.433	0.497311	20	12	0.65	exponential
0.783	0.756391	0.806	20	12	0.8	exponential
0.256	0.23009	0.285	20	16	0.5	exponential
0.543	0.51	0.574	20	16	0.65	exponential
0.839	0.816	0.86	20	16	0.8	exponential
0.104	0.088	0.126	1	4	0.5	exponential
0.24	0.213	0.266	1	4	0.65	exponential
0.24	0.215	0.267	1	4	0.8	exponential
0.113	0.096	0.132	1	8	0.5	exponential
0.225	0.201	0.251	1	8	0.65	exponential
0.4	0.37	0.427966	1	8	0.8	exponential
0.234	0.210727	0.262	1	12	0.5	exponential
0.505	0.475	0.537734	1	12	0.65	exponential
0.716	0.686	0.744	1	12	0.8	exponential
0.405	0.376	0.435	1	16	0.5	exponential
0.643	0.613	0.670492	1	16	0.65	exponential
0.825	0.8	0.85	1	16	0.8	exponential

Supplemental Table 4. Power of our approach for the synthetic data with the multivariate effect introduced over 4 time-points, specifically TRs 5, 6, 7 and 8. We report values for all trials numbers, subject groups, noise distributions and % of data showing the effect.

Power	Lower CI	Upper CI	Number of Subjects	Number of Trials	Target Effect	Noise Distribution
0.194	0.168	0.219	6	4	0.5	normal
0.366	0.339369	0.395	6	4	0.65	normal
0.615	0.586	0.643	6	4	0.8	normal
0.185	0.163	0.210865	6	8	0.5	normal
0.323	0.295	0.350254	6	8	0.65	normal
0.567	0.537	0.597583	6	8	0.8	normal
0.183	0.158	0.207	6	12	0.5	normal
0.322	0.29369	0.351	6	12	0.65	normal
0.582	0.551	0.612	6	12	0.8	normal
0.208	0.182	0.234	6	16	0.5	normal
0.341	0.312	0.371	6	16	0.65	normal
0.616	0.586779	0.645	6	16	0.8	normal
0.192	0.167	0.216446	10	4	0.5	normal
0.463	0.429	0.493158	10	4	0.65	normal
0.655	0.626	0.684	10	4	0.8	normal
0.166	0.143	0.189	10	8	0.5	normal
0.376	0.346	0.406	10	8	0.65	normal
0.558	0.531	0.587638	10	8	0.8	normal
0.183	0.159	0.207057	10	12	0.5	normal
0.441	0.411	0.470822	10	12	0.65	normal
0.61	0.583	0.64115	10	12	0.8	normal
0.171	0.148	0.195	10	16	0.5	normal
0.409	0.377636	0.439	10	16	0.65	normal
0.576	0.545	0.605	10	16	0.8	normal
0.233	0.205	0.259876	14	4	0.5	normal
0.471	0.442	0.5	14	4	0.65	normal
0.715	0.689	0.74	14	4	0.8	normal
0.195	0.173	0.222	14	8	0.5	normal
0.338	0.309	0.368	14	8	0.65	normal
0.582	0.549	0.61	14	8	0.8	normal
0.175	0.152	0.199	14	12	0.5	normal
0.358	0.329	0.389452	14	12	0.65	normal
0.633	0.602	0.66	14	12	0.8	normal
0.211	0.184	0.234939	14	16	0.5	normal
0.404	0.373	0.435816	14	16	0.65	normal
0.673	0.642	0.7	14	16	0.8	normal
0.347	0.32076	0.378	20	4	0.5	normal
0.673	0.644332	0.703	20	4	0.65	normal
0.915	0.896	0.932	20	4	0.8	normal
0.208	0.183	0.236	20	8	0.5	normal

0.435	0.405	0.467	20	8	0.65	normal
0.76	0.736	0.786	20	8	0.8	normal
0.248	0.224	0.275	20	12	0.5	normal
0.522	0.49022	0.553	20	12	0.65	normal
0.809	0.784	0.833	20	12	0.8	normal
0.276	0.251	0.307	20	16	0.5	normal
0.573	0.543738	0.603	20	16	0.65	normal
0.848	0.825	0.869	20	16	0.8	normal
0.075	0.06	0.093	1	4	0.5	normal
0.27	0.243	0.3	1	4	0.65	normal
0.27	0.243	0.296	1	4	0.8	normal
0.102	0.084	0.122699	1	8	0.5	normal
0.199	0.176	0.226	1	8	0.65	normal
0.361	0.331	0.391	1	8	0.8	normal
0.228	0.20375	0.255	1	12	0.5	normal
0.497	0.465068	0.527	1	12	0.65	normal
0.692	0.664	0.721679	1	12	0.8	normal
0.405	0.373	0.438	1	16	0.5	normal
0.617	0.586	0.643	1	16	0.65	normal
0.788	0.759	0.813095	1	16	0.8	normal
0.173	0.15	0.197167	6	4	0.5	uniform
0.327	0.298	0.357	6	4	0.65	uniform
0.581	0.55	0.61	6	4	0.8	uniform
0.168	0.147	0.195	6	8	0.5	uniform
0.306	0.279831	0.335	6	8	0.65	uniform
0.541	0.510263	0.570159	6	8	0.8	uniform
0.172	0.15	0.197383	6	12	0.5	uniform
0.324	0.294	0.352	6	12	0.65	uniform
0.559	0.53	0.593	6	12	0.8	uniform
0.192	0.169	0.215	6	16	0.5	uniform
0.361	0.331	0.393	6	16	0.65	uniform
0.587	0.557	0.617805	6	16	0.8	uniform
0.189	0.166155	0.214	10	4	0.5	uniform
0.475	0.443513	0.505482	10	4	0.65	uniform
0.655	0.6233	0.682356	10	4	0.8	uniform
0.151	0.129	0.172137	10	8	0.5	uniform
0.357	0.325	0.385727	10	8	0.65	uniform
0.52	0.488	0.548	10	8	0.8	uniform
0.173	0.15	0.198	10	12	0.5	uniform
0.405	0.373	0.434	10	12	0.65	uniform
0.574	0.542121	0.606	10	12	0.8	uniform

0.174	0.151	0.198	10	16	0.5	uniform
0.422	0.391	0.454613	10	16	0.65	uniform
0.605	0.574636	0.634	10	16	0.8	uniform
0.24	0.217	0.268804	14	4	0.5	uniform
0.443	0.411	0.475	14	4	0.65	uniform
0.739	0.712745	0.769	14	4	0.8	uniform
0.15	0.13	0.172	14	8	0.5	uniform
0.334	0.306	0.367199	14	8	0.65	uniform
0.589	0.557053	0.618	14	8	0.8	uniform
0.196	0.173	0.222	14	12	0.5	uniform
0.39	0.361	0.420851	14	12	0.65	uniform
0.645	0.612924	0.67	14	12	0.8	uniform
0.204	0.181	0.228749	14	16	0.5	uniform
0.379	0.352	0.41	14	16	0.65	uniform
0.659	0.627	0.686	14	16	0.8	uniform
0.358	0.328	0.386872	20	4	0.5	uniform
0.69	0.663433	0.715	20	4	0.65	uniform
0.914	0.896	0.93	20	4	0.8	uniform
0.214	0.191	0.241	20	8	0.5	uniform
0.451	0.42	0.482	20	8	0.65	uniform
0.743	0.714	0.77	20	8	0.8	uniform
0.212	0.188	0.236705	20	12	0.5	uniform
0.476	0.445	0.506874	20	12	0.65	uniform
0.796	0.770032	0.821	20	12	0.8	uniform
0.275	0.248	0.305257	20	16	0.5	uniform
0.555	0.525	0.585909	20	16	0.65	uniform
0.848	0.826	0.87	20	16	0.8	uniform
0.072	0.058	0.09	1	4	0.5	uniform
0.221	0.192	0.244	1	4	0.65	uniform
0.221	0.195854	0.247	1	4	0.8	uniform
0.108	0.089	0.127	1	8	0.5	uniform
0.208	0.184	0.234	1	8	0.65	uniform
0.364	0.334	0.395	1	8	0.8	uniform
0.231	0.205	0.259	1	12	0.5	uniform
0.5	0.468	0.53	1	12	0.65	uniform
0.698	0.670271	0.725792	1	12	0.8	uniform
0.402	0.37	0.431873	1	16	0.5	uniform
0.618	0.587	0.6474	1	16	0.65	uniform
0.788	0.762	0.813	1	16	0.8	uniform
0.194	0.170766	0.218	6	4	0.5	exponential
0.337	0.31	0.368	6	4	0.65	exponential

0.605	0.574024	0.636	6	4	0.8	exponential
0.191	0.167503	0.218	6	8	0.5	exponential
0.314	0.288	0.347198	6	8	0.65	exponential
0.568	0.539	0.6	6	8	0.8	exponential
0.169	0.147	0.194116	6	12	0.5	exponential
0.313	0.285	0.342426	6	12	0.65	exponential
0.556	0.523	0.58403	6	12	0.8	exponential
0.171	0.15	0.198	6	16	0.5	exponential
0.336	0.309	0.364	6	16	0.65	exponential
0.576	0.543	0.606	6	16	0.8	exponential
0.186	0.164	0.213	10	4	0.5	exponential
0.467	0.436748	0.497	10	4	0.65	exponential
0.651	0.622	0.683	10	4	0.8	exponential
0.143	0.123	0.166553	10	8	0.5	exponential
0.348	0.316168	0.377	10	8	0.65	exponential
0.516	0.484718	0.546	10	8	0.8	exponential
0.162	0.141	0.188141	10	12	0.5	exponential
0.387	0.357	0.418	10	12	0.65	exponential
0.577	0.546	0.609	10	12	0.8	exponential
0.185	0.16	0.212	10	16	0.5	exponential
0.417	0.389	0.448198	10	16	0.65	exponential
0.603	0.573	0.633	10	16	0.8	exponential
0.249	0.225	0.277	14	4	0.5	exponential
0.504	0.471	0.535	14	4	0.65	exponential
0.78	0.753781	0.807	14	4	0.8	exponential
0.169	0.147	0.192	14	8	0.5	exponential
0.347	0.32	0.377	14	8	0.65	exponential
0.601	0.569	0.63	14	8	0.8	exponential
0.187	0.163	0.212768	14	12	0.5	exponential
0.37	0.340551	0.401	14	12	0.65	exponential
0.629	0.598	0.661	14	12	0.8	exponential
0.188	0.164	0.212	14	16	0.5	exponential
0.408	0.376942	0.439	14	16	0.65	exponential
0.696	0.668523	0.724	14	16	0.8	exponential
0.369	0.341	0.402	20	4	0.5	exponential
0.674	0.646	0.703049	20	4	0.65	exponential
0.903	0.882	0.92	20	4	0.8	exponential
0.205	0.181	0.235	20	8	0.5	exponential
0.45	0.418655	0.482161	20	8	0.65	exponential
0.761	0.729	0.785	20	8	0.8	exponential
0.225	0.199625	0.251	20	12	0.5	exponential

0.49	0.458988	0.52	20	12	0.65	exponential
0.808	0.784	0.833	20	12	0.8	exponential
0.272	0.246	0.299	20	16	0.5	exponential
0.578	0.545	0.607	20	16	0.65	exponential
0.838	0.814	0.861092	20	16	0.8	exponential
0.091	0.074	0.109	1	4	0.5	exponential
0.248	0.221	0.275	1	4	0.65	exponential
0.248	0.220532	0.274	1	4	0.8	exponential
0.101	0.084	0.121	1	8	0.5	exponential
0.208	0.182	0.234	1	8	0.65	exponential
0.394	0.362	0.423	1	8	0.8	exponential
0.24	0.214	0.26624	1	12	0.5	exponential
0.491	0.459	0.522368	1	12	0.65	exponential
0.684	0.657704	0.713	1	12	0.8	exponential
0.429	0.397	0.461	1	16	0.5	exponential
0.635	0.605	0.663	1	16	0.65	exponential
0.815	0.788	0.839	1	16	0.8	exponential

Supplemental Table 5. Power of our approach for the synthetic data with the multivariate effect introduced over 5 time-points, specifically TRs 5, 6, 7, 8 and 9. We report values for all trials numbers, subject groups, noise distributions and % of data showing the effect.