Supplementary Table 1
Model Convergence Rate

Sample Size	Distribution	Statistical Power	CPI	GAPI	UPI	LMS
100	Normal	0	98.93%	97.80%	94.93%	99.67%
100	Uniform	0	99.27%	98.53%	95.13%	99.60%
100	K1	0	94.13%	90.53%	87.80%	99.07%
100	K2	0	88.87%	83.60%	84.73%	98.53%
100	χ^2_1	0	88.60%	81.67%	87.33%	99.27%
200	Normal	0	99.87%	99.80%	99.73%	99.87%
200	Uniform	0	100.00%	99.93%	99.40%	99.80%
200	K1	0	97.67%	97.60%	97.73%	99.87%
200	K2	0	95.20%	93.40%	95.80%	99.80%
200	χ^2_1	0	96.53%	96.87%	98.27%	99.80%
500	Normal	0	99.93%	99.93%	99.67%	100.00%
500	Uniform	0	99.73%	99.87%	99.80%	100.00%
500	K1	0	99.67%	99.20%	99.33%	99.47%
500	K2	0	98.53%	97.93%	99.07%	98.53%
500	χ^2_1	0	99.67%	98.73%	99.87%	100.00%
1000	Normal	0	99.73%	99.80%	99.47%	100.00%
1000	Uniform	0	99.87%	99.93%	100.00%	100.00%
1000	K1	0	100.00%	99.20%	99.73%	98.27%
1000	K2	0	99.67%	98.20%	99.47%	95.73%
1000	χ^2_1	0	99.80%	99.07%	99.93%	100.00%
5000	Normal	0	99.87%	100.00%	100.00%	100.00%
5000	Uniform	0	100.00%	100.00%	99.87%	100.00%
5000	K1	0	100.00%	98.93%	99.93%	91.07%
5000	K2	0	99.60%	97.00%	99.33%	75.27%
5000	χ^2_1	0	99.87%	99.67%	99.93%	99.93%
100	Normal	0.7	99.00%	97.93%	93.53%	99.87%
100	Uniform	0.7	99.33%	97.40%	94.93%	99.73%
100	K1	0.7	93.13%	85.80%	86.07%	99.00%
100	K2	0.7	86.87%	76.47%	78.87%	98.40%
100	χ^2_1	0.7	92.27%	80.47%	86.07%	99.73%
200	Normal	0.7	99.80%	100.00%	99.73%	99.87%
200	Uniform	0.7	99.87%	99.87%	99.27%	99.93%
200	K1	0.7	97.93%	95.87%	96.07%	99.73%
200	K2	0.7	95.20%	91.13%	93.80%	99.27%
200	χ^2_1	0.7	98.13%	94.60%	98.40%	99.87%
500	Normal	0.7	99.87%	99.80%	99.87%	100.00%
500	Uniform	0.7	99.73%	99.87%	99.60%	100.00%
500	K1	0.7	99.53%	97.60%	99.13%	98.93%
500	K2	0.7	98.40%	95.73%	98.33%	97.33%
500	χ^2_1	0.7	99.87%	98.80%	99.93%	100.00%
1000	Normal	0.7	99.87%	99.73%	99.73%	100.00%
1000	Uniform	0.7	99.60%	99.73%	99.60%	100.00%
1000	K1	0.7	99.73%	99.00%	99.67%	98.13%
1000	K2	0.7	99.33%	97.13%	99.07%	93.53%
1000	χ^2_1	0.7	99.87%	99.27%	100.00%	99.87%
5000	Normal	0.7	99.93%	99.87%	99.93%	100.00%
5000	Uniform	0.7	99.87%	100.00%	100.00%	100.00%
5000	K1	0.7	99.87%	99.13%	100.00%	90.27%
5000	K2	0.7	99.33%	97.07%	99.53%	74.07%
5000	χ^2_1	0.7	99.93%	99.53%	99.93%	100.00%
100	Normal	0.9	99.07%	96.73%	93.00%	99.53%
100	Uniform	0.9	99.40%	97.40%	94.53%	99.87%
100	K1	0.9	92.33%	82.67%	83.60%	99.13%
100	K2	0.9	88.67%	77.67%	78.93%	98.33%
100	χ^2_1	0.9	91.60%	79.40%	85.33%	99.00%
200	Normal	0.9	100.00%	99.80%	99.60%	100.00%
200	Uniform	0.9	99.87%	99.80%	99.53%	99.93%
200	K1	0.9	97.93%	95.60%	95.67%	99.80%
200	K2	0.9	96.20%	90.60%	92.53%	99.33%
200	χ^2_1	0.9	98.67%	95.67%	98.33%	100.00%
500	Normal	0.9	99.93%	99.93%	100.00%	99.93%
500	Uniform	0.9	99.87%	99.93%	99.67%	99.93%
500	K1	0.9	99.80%	97.60%	99.00%	98.93%
500	K2	0.9	98.93%	94.33%	97.27%	96.20%
500	χ^2_1	0.9	99.93%	99.27%	100.00%	100.00%
1000	Normal	0.9	99.93%	99.80%	99.47%	100.00%
1000	Uniform	0.9	99.87%	99.93%	99.93%	100.00%
1000	K1	0.9	99.60%	98.67%	99.60%	98.27%
1000	K2	0.9	99.13%	96.00%	98.20%	93.00%
1000	χ^2_1	0.9	99.93%	99.07%	99.93%	99.53%
5000	Normal	0.9	99.93%	99.80%	99.80%	100.00%
5000	Uniform	0.9	99.80%	99.80%	100.00%	100.00%
5000	K1	0.9	99.87%	99.47%	99.73%	90.47%
5000	K2	0.9	99.53%	96.60%	99.47%	75.40%
5000	χ^2_1	0.9	100.00%	99.80%	100.00%	99.93%

Note. In the power = 0 condition, γ_3 was set to 0 to investigate the Type-I error rate.