

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$2.52 \cdot 10^3$	145.2	317.0	6.80	$1.19 \cdot 10^3$	107.9
	$S^2(n)$	$6.70 \cdot 10^3$	91.36	204.9	6.51	65.54	223.9
	SW	0.829	0.825	0.823	0.033	0.966	0.353
	Skew.	-0.254	0.276	-0.241	0.468	0.052	0.625
	Hist.						
	Q-Q						
P_i^w	$\bar{X}(n)$	530.5	$2.06 \cdot 10^3$	19.90	71.93	390.5	44.93
	$S^2(n)$	435.8	$8.84 \cdot 10^5$	58.58	105.7	6.52	25.60
	SW	0.003	0.165	0.642	0.191	0.138	0.074
	Skew.	1.35	0.051	0.199	0.551	0.533	0.818
	Hist.						
	Q-Q						
P_i^c	$\bar{X}(n)$	$8.62 \cdot 10^3$	11.70	$3.74 \cdot 10^3$	148.2	$6.22 \cdot 10^3$	247.3
	$S^2(n)$	$4.10 \cdot 10^3$	0.286	$1.66 \cdot 10^4$	94.14	285.7	$1.13 \cdot 10^3$
	SW	0.378	<0.001	0.527	0.646	0.650	0.082
	Skew.	0.344	-0.165	0.391	-0.281	0.001	0.794
	Hist.						
	Q-Q						
\bar{E}_i^s	$\bar{X}(n)$	19.74	53.07	4.46	0	16.38	0.653
	$S^2(n)$	0.509	36.96	0.018	0	0.004	0.004
	SW	0.159	0.332	0.952	-	0.961	0.458
	Skew.	0.679	0.485	0.071	-	0.048	0.551
	Hist.						
	Q-Q						
\bar{E}_i^w	$\bar{X}(n)$	41.86	135.7	11.31	24.33	24.61	1.67
	$S^2(n)$	41.39	$1.07 \cdot 10^3$	0.934	142.7	0.026	0.018
	SW	0.076	0.002	0.128	<0.001	0.628	0.046
	Skew.	0.860	1.32	-0.611	2.30	-0.169	0.577
	Hist.						
	Q-Q						
\bar{C}_i	$\bar{X}(n)$	3.45	148.9	0.759	10.33	2.08	0.137
	$S^2(n)$	0.005	109.8	0.001	0.299	$8.63 \cdot 10^{-5}$	$3.38 \cdot 10^{-4}$
	SW	0.526	0.571	0.292	<0.001	0.619	0.079
	Skew.	-0.366	-0.083	-0.415	1.34	-0.009	0.799
	Hist.						
	Q-Q						

Table S2.1. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 100 and parameter set 1. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$9.95 \cdot 10^3$	143.3	$1.28 \cdot 10^3$	7.17	$4.75 \cdot 10^3$	221.5
	$S^2(n)$	$3.28 \cdot 10^4$	33.54	$1.07 \cdot 10^3$	2.63	276.0	$1.26 \cdot 10^3$
	SW	0.886	0.665	0.022	0.203	0.373	0.297
	Skew.	0.121	0.037	-1.077	-0.125	-0.319	0.541
	Hist.						
	Q-Q						
P_i^w	$\bar{X}(n)$	$1.83 \cdot 10^3$	$2.18 \cdot 10^3$	101.0	73.77	$1.56 \cdot 10^3$	92.62
	$S^2(n)$	$1.47 \cdot 10^3$	$1.04 \cdot 10^6$	334.2	72.12	33.95	166.6
	SW	0.178	0.205	0.186	0.925	0.942	0.347
	Skew.	0.810	-0.125	0.228	0.003	-0.171	0.662
	Hist.						
	Q-Q						
P_i^c	$\bar{X}(n)$	$3.45 \cdot 10^4$	11.80	$1.52 \cdot 10^4$	144.9	$2.48 \cdot 10^4$	508.4
	$S^2(n)$	$1.84 \cdot 10^4$	0.166	$7.93 \cdot 10^4$	27.09	$1.12 \cdot 10^3$	$7.03 \cdot 10^3$
	SW	0.597	<0.001	0.751	0.062	0.774	0.338
	Skew.	0.535	-1.500	0.136	0.794	0.199	0.413
	Hist.						
	Q-Q						
E_i^s	$\bar{X}(n)$	19.48	50.50	4.50	0	16.36	0.335
	$S^2(n)$	0.089	21.91	0.003	0	0.001	0.001
	SW	0.012	0.158	0.954	-	0.299	0.541
	Skew.	0.961	0.394	-0.018	-	-0.018	0.086
	Hist.						
	Q-Q						
E_i^w	$\bar{X}(n)$	35.31	140.4	12.14	20.20	24.61	0.847
	$S^2(n)$	4.30	456.0	0.278	24.51	0.005	0.004
	SW	0.707	0.823	0.925	0.015	0.682	0.286
	Skew.	-0.188	0.059	-0.294	0.726	0.259	0.797
	Hist.						
	Q-Q						
\bar{C}_i	$\bar{X}(n)$	3.42	144.2	0.761	10.10	2.08	0.070
	$S^2(n)$	0.002	37.20	$3.46 \cdot 10^{-4}$	0.093	$2.14 \cdot 10^{-5}$	$1.31 \cdot 10^{-4}$
	SW	0.632	0.059	0.602	<0.001	0.788	0.330
	Skew.	-0.144	0.849	-0.563	2.67	-0.204	0.419
	Hist.						
	Q-Q						

Table S2.2. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 200 and parameter set 1. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$	
P_i^s	$\bar{X}(n)$	$3.97 \cdot 10^4$	143.6	$5.15 \cdot 10^3$	7.20	$1.90 \cdot 10^4$	468.5	
	$S^2(n)$	$1.16 \cdot 10^5$	16.19	$2.46 \cdot 10^3$	0.441	$1.49 \cdot 10^3$	$5.75 \cdot 10^3$	
	SW	0.203	0.421	0.509	<0.001	0.738	0.315	
	Skew.	0.514	0.333	-0.043	-0.230	0.158	0.530	
	Hist.							
	Q-Q							
P_i^w	$\bar{X}(n)$	$6.82 \cdot 10^3$	$2.15 \cdot 10^3$	394.6	74.40	$6.24 \cdot 10^3$	190.2	
	$S^2(n)$	$8.39 \cdot 10^3$	$1.08 \cdot 10^6$	$1.58 \cdot 10^3$	30.52	144.1	772.1	
	SW	0.054	0.015	0.366	0.681	0.194	0.064	
	Skew.	-0.352	0.016	0.638	0.436	-0.655	0.584	
	Hist.							
	Q-Q							
P_i^c	$\bar{X}(n)$	$1.38 \cdot 10^5$	11.70	$6.10 \cdot 10^4$	145.9	$9.94 \cdot 10^4$	$1.07 \cdot 10^3$	
	$S^2(n)$	$5.49 \cdot 10^4$	0.217	$2.98 \cdot 10^5$	21.24	$5.92 \cdot 10^3$	$3.17 \cdot 10^4$	
	SW	0.631	<0.001	0.360	0.127	0.874	0.327	
	Skew.	0.251	-0.873	-0.251	0.125	-0.404	0.479	
	Hist.							
	Q-Q							
\bar{E}_i^s	$\bar{X}(n)$	19.28	48.97	4.50	0	16.34	0.170	
	$S^2(n)$	0.040	9.14	0.001	0	$3.91 \cdot 10^{-4}$	$2.38 \cdot 10^{-4}$	
	SW	0.625	0.162	0.093	-	0.205	0.059	
	Skew.	0.521	0.261	0.491	-	0.579	0.862	
	Hist.							
	Q-Q							
\bar{E}_i^w	$\bar{X}(n)$	34.03	141.4	12.20	19.30	24.61	0.432	
	$S^2(n)$	0.940	180.5	0.052	5.53	0.002	0.001	
	SW	0.783	0.539	0.558	<0.001	0.178	0.155	
	Skew.	0.172	0.007	0.521	1.28	0.565	0.039	
	Hist.							
	Q-Q							
\bar{C}_i	$\bar{X}(n)$	3.41	145.2	0.765	10.00	2.08	0.037	
	$S^2(n)$	$3.46 \cdot 10^{-4}$	22.01	$6.47 \cdot 10^{-5}$	0	$6.98 \cdot 10^{-6}$	$3.71 \cdot 10^{-5}$	
	SW	0.218	0.920	0.240	-	0.855	0.320	
	Skew.	0.304	-0.050	-0.272	-	0.413	0.480	
	Hist.							
	Q-Q							

Table S2.3. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 400 and parameter set 1. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$1.59 \cdot 10^5$	142.2	$2.06 \cdot 10^4$	7.07	$7.61 \cdot 10^4$	944.9
	$S^2(n)$	$4.06 \cdot 10^5$	5.80	$1.68 \cdot 10^4$	0.133	$3.76 \cdot 10^3$	$1.67 \cdot 10^4$
	SW	0.166	0.597	0.045	<0.001	0.802	0.746
	Skew.	0.166	0.283	-1.044	0.877	-0.313	0.206
	Hist.						
	Q-Q						
P_i^w	$\bar{X}(n)$	$2.61 \cdot 10^4$	$2.28 \cdot 10^3$	$1.64 \cdot 10^3$	76.30	$2.50 \cdot 10^4$	387.2
	$S^2(n)$	$2.17 \cdot 10^4$	$1.09 \cdot 10^6$	$4.00 \cdot 10^3$	9.04	642.1	$2.27 \cdot 10^3$
	SW	0.047	0.031	0.793	0.585	0.748	0.836
	Skew.	0.849	-0.282	-0.305	-0.100	0.478	0.265
	Hist.						
	Q-Q						
P_i^c	$\bar{X}(n)$	$5.51 \cdot 10^5$	12.00	$2.44 \cdot 10^5$	143.9	$3.97 \cdot 10^5$	$2.16 \cdot 10^3$
	$S^2(n)$	$1.24 \cdot 10^5$	0	$1.03 \cdot 10^6$	2.74	$1.56 \cdot 10^4$	$8.98 \cdot 10^4$
	SW	0.330	-	0.050	0.170	0.035	0.506
	Skew.	0.572	-	0.376	0.076	0.863	0.303
	Hist.						
	Q-Q						
\bar{E}_i^s	$\bar{X}(n)$	19.25	49.10	4.50	0	16.34	0.087
	$S^2(n)$	0.007	5.68	$2.54 \cdot 10^{-4}$	0	$9.96 \cdot 10^{-5}$	$6.13 \cdot 10^{-5}$
	SW	0.672	0.495	0.991	-	0.317	0.605
	Skew.	-0.123	0.331	-0.192	-	0.004	-0.052
	Hist.						
	Q-Q						
\bar{E}_i^w	$\bar{X}(n)$	33.24	141.8	12.36	18.27	24.60	0.215
	$S^2(n)$	0.181	91.43	0.015	2.55	$2.96 \cdot 10^{-4}$	$1.45 \cdot 10^{-4}$
	SW	0.207	0.352	0.120	0.005	0.500	0.109
	Skew.	0.391	-0.225	0.520	1.06	0.269	0.552
	Hist.						
	Q-Q						
\bar{C}_i	$\bar{X}(n)$	3.40	142.5	0.765	10.00	2.08	0.019
	$S^2(n)$	$7.62 \cdot 10^{-5}$	5.64	$1.02 \cdot 10^{-5}$	0	$1.15 \cdot 10^{-6}$	$6.54 \cdot 10^{-6}$
	SW	0.080	0.484	0.326	-	0.036	0.494
	Skew.	-0.287	-0.105	-0.634	-	-0.859	0.310
	Hist.						
	Q-Q						

Table S2.4. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 800 and parameter set 1. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{I \leq i \leq m}$	$s_{I \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$6.34 \cdot 10^5$	142.6	$8.26 \cdot 10^4$	7.03	$3.04 \cdot 10^5$	$1.75 \cdot 10^3$
	$S^2(n)$	$1.96 \cdot 10^6$	2.19	$4.33 \cdot 10^4$	0.033	$2.36 \cdot 10^4$	$7.06 \cdot 10^4$
	SW	0.715	0.067	0.342	<0.001	0.135	0.282
	Skew.	0.243	-0.132	-0.459	5.20	-0.171	0.610
	Hist.						
	Q-Q						
P_i^w	$\bar{X}(n)$	$1.02 \cdot 10^5$	$1.85 \cdot 10^3$	$6.60 \cdot 10^3$	76.37	$9.99 \cdot 10^4$	729.7
	$S^2(n)$	$1.77 \cdot 10^5$	$1.50 \cdot 10^6$	$2.11 \cdot 10^4$	6.10	$2.34 \cdot 10^3$	$8.62 \cdot 10^3$
	SW	0.409	<0.001	0.184	0.381	0.447	0.257
	Skew.	0.502	0.290	0.328	0.030	-0.233	0.694
	Hist.						
	Q-Q						
P_i^c	$\bar{X}(n)$	$2.21 \cdot 10^6$	12.00	$9.79 \cdot 10^5$	145.0	$1.59 \cdot 10^6$	$4.00 \cdot 10^3$
	$S^2(n)$	$8.24 \cdot 10^5$	0	$4.34 \cdot 10^6$	2.62	$8.47 \cdot 10^4$	$3.50 \cdot 10^5$
	SW	0.205	-	0.830	0.277	0.200	0.316
	Skew.	-0.087	-	0.124	0.149	0.080	0.569
	Hist.						
	Q-Q						
\bar{E}_i^s	$\bar{X}(n)$	19.24	49.17	4.50	0	16.34	0.041
	$S^2(n)$	0.003	2.14	$6.68 \cdot 10^{-5}$	0	$2.04 \cdot 10^{-5}$	$1.98 \cdot 10^{-5}$
	SW	0.555	0.016	0.063	-	0.729	0.019
	Skew.	0.196	-0.025	-0.302	-	0.090	1.14
	Hist.						
	Q-Q						
\bar{E}_i^w	$\bar{X}(n)$	32.96	143.2	12.36	18.30	24.59	0.106
	$S^2(n)$	0.059	21.11	0.006	0.700	$8.39 \cdot 10^{-5}$	$7.60 \cdot 10^{-5}$
	SW	0.261	0.181	0.423	<0.001	0.010	0.395
	Skew.	-0.096	0.620	-0.396	-0.244	0.732	0.610
	Hist.						
	Q-Q						
\bar{C}_i	$\bar{X}(n)$	3.40	143.2	0.766	10.00	2.08	0.009
	$S^2(n)$	$2.23 \cdot 10^{-5}$	4.65	$2.56 \cdot 10^{-6}$	0	$3.92 \cdot 10^{-7}$	$1.60 \cdot 10^{-6}$
	SW	0.841	0.135	0.525	-	0.194	0.306
	Skew.	-0.232	-0.557	-0.056	-	-0.079	0.579
	Hist.						
	Q-Q						

Table S2.5. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 1600 and parameter set 1. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$2.16 \cdot 10^4$	70.43	325.3	100.4	$3.65 \cdot 10^3$	$1.32 \cdot 10^3$
	$S^2(n)$	$3.63 \cdot 10^5$	3.63	$1.11 \cdot 10^4$	$1.20 \cdot 10^4$	$1.22 \cdot 10^4$	$6.84 \cdot 10^4$
	SW	0.554	0.018	<0.001	<0.001	0.190	0.424
	Skew.	-0.178	0.666	-1.104	0.154	0.012	0.520
	Hist.						
	Q-Q						
P_i^w	$\bar{X}(n)$	$2.83 \cdot 10^3$	363.9	42.20	26.50	$1.51 \cdot 10^3$	344.1
	$S^2(n)$	$6.62 \cdot 10^4$	$3.76 \cdot 10^5$	90.37	14.74	231.5	$4.33 \cdot 10^3$
	SW	0.011	<0.001	0.262	0.603	0.744	0.249
	Skew.	1.16	3.62	0.559	0.178	0.238	0.401
	Hist.						
	Q-Q						
P_i^c	$\bar{X}(n)$	$8.87 \cdot 10^3$	369.5	160.5	67.03	$5.30 \cdot 10^3$	943.5
	$S^2(n)$	$1.80 \cdot 10^5$	$3.40 \cdot 10^5$	647.8	13.55	$1.17 \cdot 10^3$	$3.50 \cdot 10^4$
	SW	0.497	<0.001	0.515	0.437	0.299	0.181
	Skew.	-0.247	4.18	0.166	0.260	-0.381	0.432
	Hist.						
	Q-Q						
\bar{E}_i^s	$\bar{X}(n)$	78.39	68.07	17.08	87.33	35.43	5.54
	$S^2(n)$	59.27	$7.97 \cdot 10^3$	0.052	8.51	0.381	0.922
	SW	<0.001	<0.001	0.203	0.174	0.954	0.325
	Skew.	1.80	1.07	0.235	0.156	-0.236	0.372
	Hist.						
	Q-Q						
\bar{E}_i^w	$\bar{X}(n)$	81.38	76.77	7.09	8.70	30.11	3.65
	$S^2(n)$	56.53	33.98	0.250	3.25	0.146	0.404
	SW	0.995	0.392	0.485	0.406	0.964	0.949
	Skew.	-0.121	-0.288	0.138	0.351	0.076	0.260
	Hist.						
	Q-Q						
\bar{C}_i	$\bar{X}(n)$	7.93	65.07	0.893	373.3	3.76	0.758
	$S^2(n)$	0.002	11.10	0.112	$3.43 \cdot 10^5$	0.001	0.023
	SW	0.223	0.756	0.521	<0.001	0.195	0.177
	Skew.	0.105	-0.395	0.229	4.12	0.411	0.434
	Hist.						
	Q-Q						

Table S2.6. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 100 and parameter set 2. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$8.52 \cdot 10^4$	70.03	$1.52 \cdot 10^3$	64.83	$1.45 \cdot 10^4$	$2.61 \cdot 10^3$
	$S^2(n)$	$1.51 \cdot 10^6$	0.999	$2.55 \cdot 10^4$	$1.02 \cdot 10^4$	$5.66 \cdot 10^4$	$4.26 \cdot 10^5$
	SW	0.949	0.018	<0.001	<0.001	0.162	<0.001
	Skew.	0.179	-0.067	-2.014	0.878	0.694	2.13
	Hist.						
	Q-Q						
P_i^w	$\bar{X}(n)$	$1.09 \cdot 10^4$	155.9	187.4	27.63	$6.04 \cdot 10^3$	689.3
	$S^2(n)$	$3.00 \cdot 10^5$	20.58	380.6	5.62	$1.01 \cdot 10^3$	$3.06 \cdot 10^4$
	SW	0.217	0.356	0.981	0.137	0.855	<0.001
	Skew.	-0.592	0.639	0.220	-0.106	-0.202	1.99
	Hist.						
	Q-Q						
P_i^c	$\bar{X}(n)$	$3.50 \cdot 10^4$	217.8	719.2	67.23	$2.12 \cdot 10^4$	$1.89 \cdot 10^3$
	$S^2(n)$	$1.96 \cdot 10^6$	26.70	$2.32 \cdot 10^3$	4.39	$4.82 \cdot 10^3$	$2.69 \cdot 10^5$
	SW	0.210	0.448	0.318	0.071	0.292	<0.001
	Skew.	-0.762	0.515	0.173	0.211	0.132	1.76
	Hist.						
	Q-Q						
\bar{E}_i^s	$\bar{X}(n)$	74.63	15.87	17.22	88.23	34.34	2.60
	$S^2(n)$	0.539	0.809	0.022	4.94	0.100	0.310
	SW	0.038	0.006	0.316	0.143	0.535	<0.001
	Skew.	1.07	0.263	0.529	0.390	0.352	2.73
	Hist.						
	Q-Q						
\bar{E}_i^w	$\bar{X}(n)$	77.90	77.77	7.33	8.10	30.13	1.77
	$S^2(n)$	9.75	11.36	0.049	1.89	0.050	0.140
	SW	0.795	0.475	0.105	0.015	0.515	<0.001
	Skew.	-0.084	0.145	0.858	0.793	0.566	2.47
	Hist.						
	Q-Q						
\bar{C}_i	$\bar{X}(n)$	7.90	66.10	0.991	215.7	3.76	0.380
	$S^2(n)$	$4.76 \cdot 10^{-4}$	4.23	0.078	22.75	$1.91 \cdot 10^{-4}$	0.011
	SW	0.652	0.337	0.197	0.213	0.293	<0.001
	Skew.	0.221	-0.040	0.779	0.568	-0.120	1.76
	Hist.						
	Q-Q						

Table S2.7. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 200 and parameter set 2. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$3.42 \cdot 10^5$	70.27	$6.40 \cdot 10^3$	0	$5.81 \cdot 10^4$	$5.86 \cdot 10^3$
	$S^2(n)$	$4.96 \cdot 10^6$	0.271	0	0	$1.81 \cdot 10^5$	$3.07 \cdot 10^6$
	SW	0.628	<0.001	-	-	0.030	0.126
	Skew.	-0.003	0.282	-	-	0.802	0.266
	Hist.						
Q-Q							
P_i^w	$\bar{X}(n)$	$4.35 \cdot 10^4$	156.4	753.1	27.43	$2.42 \cdot 10^4$	$1.58 \cdot 10^3$
	$S^2(n)$	$1.36 \cdot 10^6$	6.59	$1.94 \cdot 10^3$	2.81	$3.65 \cdot 10^3$	$2.70 \cdot 10^5$
	SW	0.312	0.053	0.396	0.167	0.332	0.118
	Skew.	-0.600	0.592	0.022	0.319	-0.495	0.250
	Hist.						
Q-Q							
P_i^c	$\bar{X}(n)$	$1.40 \cdot 10^5$	218.1	$2.93 \cdot 10^3$	67.87	$8.49 \cdot 10^4$	$4.33 \cdot 10^3$
	$S^2(n)$	$5.20 \cdot 10^6$	5.72	$1.06 \cdot 10^4$	1.91	$1.75 \cdot 10^4$	$2.18 \cdot 10^6$
	SW	0.125	0.770	0.511	0.062	0.462	0.186
	Skew.	-0.389	-0.172	-0.070	-0.156	0.066	0.207
	Hist.						
Q-Q							
\bar{E}_i^s	$\bar{X}(n)$	74.60	15.83	17.21	88.17	34.10	1.40
	$S^2(n)$	0.240	0.489	0.004	1.45	0.044	0.113
	SW	0.515	<0.001	0.880	0.033	0.374	0.063
	Skew.	-0.327	0.228	-0.068	-0.445	-0.539	0.530
	Hist.						
Q-Q							
\bar{E}_i^w	$\bar{X}(n)$	77.85	77.30	7.44	8.23	30.13	0.967
	$S^2(n)$	2.22	3.32	0.020	0.461	0.011	0.057
	SW	0.351	0.025	0.961	<0.001	0.249	0.060
	Skew.	-0.139	0.588	-0.410	1.04	0.474	0.401
	Hist.						
Q-Q							
\bar{C}_i	$\bar{X}(n)$	7.88	65.67	1.00	215.7	3.76	0.217
	$S^2(n)$	$1.11 \cdot 10^{-4}$	1.61	0.013	9.06	$4.47 \cdot 10^{-5}$	0.005
	SW	0.420	0.004	0.093	0.302	0.493	0.186
	Skew.	0.363	-0.691	0.411	0.442	-0.050	0.209
	Hist.						
Q-Q							

Table S2.8. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 400 and parameter set 2. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$1.37 \cdot 10^6$	70.03	$2.56 \cdot 10^4$	0	$2.33 \cdot 10^5$	$1.31 \cdot 10^4$
	$S^2(n)$	$1.90 \cdot 10^7$	0.033	0	0	$8.30 \cdot 10^5$	$1.24 \cdot 10^7$
	SW	0.249	<0.001	-	-	0.500	0.029
	Skew.	0.381	5.20	-	-	-0.071	0.277
	Hist.						
Q-Q							
P_i^w	$\bar{X}(n)$	$1.74 \cdot 10^5$	155.3	$3.06 \cdot 10^3$	27.27	$9.67 \cdot 10^4$	$3.55 \cdot 10^3$
	$S^2(n)$	$3.70 \cdot 10^6$	2.51	$5.16 \cdot 10^3$	1.10	$1.13 \cdot 10^4$	$1.07 \cdot 10^6$
	SW	0.987	0.025	0.740	0.002	0.382	0.055
	Skew.	-0.056	-0.033	0.156	0.729	-0.133	0.282
	Hist.						
Q-Q							
P_i^c	$\bar{X}(n)$	$5.57 \cdot 10^5$	218.2	$1.18 \cdot 10^4$	67.23	$3.40 \cdot 10^5$	$9.85 \cdot 10^3$
	$S^2(n)$	$1.18 \cdot 10^7$	2.14	$4.45 \cdot 10^4$	0.875	$9.26 \cdot 10^4$	$8.84 \cdot 10^6$
	SW	0.182	0.272	0.375	0.011	0.260	0.041
	Skew.	0.604	-0.025	-0.528	-0.220	-0.072	0.306
	Hist.						
Q-Q							
E_i^s	$\bar{X}(n)$	74.42	15.97	17.23	87.83	33.95	0.774
	$S^2(n)$	0.050	0.102	0.001	0.489	0.009	0.031
	SW	0.702	<0.001	0.626	<0.001	0.424	0.060
	Skew.	-0.216	-0.753	0.362	0.228	-0.022	0.282
	Hist.						
Q-Q							
E_i^w	$\bar{X}(n)$	78.02	78.33	7.45	8.20	30.17	0.529
	$S^2(n)$	0.661	1.47	0.004	0.234	0.003	0.015
	SW	0.634	0.110	0.271	<0.001	0.490	0.024
	Skew.	-0.019	0.044	0.258	0.519	0.449	0.289
	Hist.						
Q-Q							
C_i	$\bar{X}(n)$	7.88	65.53	1.03	215.8	3.75	0.123
	$S^2(n)$	$5.02 \cdot 10^{-5}$	0.464	0.002	1.43	$1.43 \cdot 10^{-5}$	0.001
	SW	0.401	<0.001	0.206	0.097	0.206	0.039
	Skew.	0.315	0.211	-0.576	-0.158	0.087	0.308
	Hist.						
Q-Q							

Table S2.9. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 800 and parameter set 2. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.

Out.	Stat.	$\max_{0 \leq i \leq m}$	$\arg \max_{0 \leq i \leq m}$	$\min_{0 \leq i \leq m}$	$\arg \min_{0 \leq i \leq m}$	$\bar{x}_{l \leq i \leq m}$	$s_{l \leq i \leq m}$
P_i^s	$\bar{X}(n)$	$5.47 \cdot 10^6$	70.00	$1.02 \cdot 10^5$	0	$9.32 \cdot 10^5$	$3.42 \cdot 10^4$
	$S^2(n)$	$5.84 \cdot 10^7$	0	0	0	$3.68 \cdot 10^6$	$6.84 \cdot 10^7$
	SW	0.104	-	-	-	0.594	0.361
	Skew.	-0.005	-	-	-	-0.338	0.382
	Hist.						
	Q-Q						
P_i^w	$\bar{X}(n)$	$6.96 \cdot 10^5$	155.8	$1.22 \cdot 10^4$	27.63	$3.87 \cdot 10^5$	$9.34 \cdot 10^3$
	$S^2(n)$	$2.41 \cdot 10^7$	0.648	$1.86 \cdot 10^4$	0.654	$7.36 \cdot 10^4$	$5.79 \cdot 10^6$
	SW	0.412	<0.001	0.686	<0.001	0.195	0.358
	Skew.	-0.067	0.371	0.278	0.354	0.651	0.459
	Hist.						
	Q-Q						
P_i^c	$\bar{X}(n)$	$2.24 \cdot 10^6$	218.0	$4.72 \cdot 10^4$	67.77	$1.36 \cdot 10^6$	$2.62 \cdot 10^4$
	$S^2(n)$	$8.68 \cdot 10^7$	0.447	$1.56 \cdot 10^5$	0.461	$3.02 \cdot 10^5$	$4.78 \cdot 10^7$
	SW	0.427	<0.001	0.446	<0.001	0.496	0.461
	Skew.	-0.138	0.035	-0.014	0.307	0.037	0.421
	Hist.						
	Q-Q						
\bar{E}_i^s	$\bar{X}(n)$	74.43	16.00	17.23	87.97	33.94	0.491
	$S^2(n)$	0.017	0	$1.99 \cdot 10^{-4}$	0.240	0.003	0.010
	SW	0.337	-	0.659	<0.001	0.416	0.216
	Skew.	0.389	-	0.028	-0.090	0.350	0.408
	Hist.						
	Q-Q						
\bar{E}_i^w	$\bar{X}(n)$	77.89	78.27	7.45	8.13	30.16	0.333
	$S^2(n)$	0.145	0.616	0.001	0.120	0.001	0.005
	SW	0.514	<0.001	0.538	<0.001	0.382	0.121
	Skew.	0.028	-0.063	0.479	2.16	-0.078	0.553
	Hist.						
	Q-Q						
\bar{C}_i	$\bar{X}(n)$	7.88	65.90	1.01	215.6	3.75	0.082
	$S^2(n)$	$1.02 \cdot 10^{-5}$	0.438	0.001	0.524	$3.06 \cdot 10^{-6}$	$4.69 \cdot 10^{-4}$
	SW	0.573	<0.001	0.420	<0.001	0.451	0.449
	Skew.	0.144	0.102	0.166	0.200	-0.041	0.429
	Hist.						
	Q-Q						

Table S2.10. Statistics and distributional analysis of the selected focal measures for $n = 30$ replications of the PPHPC model with size 1600 and parameter set 2. ‘SW’ refers to the p -value produced by the Shapiro-Wilk normality test. ‘Skew.’ refers to the skewness in the distribution. ‘Hist.’ shows an histogram of the distribution. ‘Q-Q’ shows a Q-Q plot of the distribution.