

Determining Dimensionality of Binary Variables: A Monte Carlo Simulation Study

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SUPPLEMENTARY FILE

Table 1. Proportion of replications with a correctly determined dimensionality.

N	F	IPC	Binary split	Correlation matrix	Analysis	# of Repl. Cvgd.	Proportion of Repl. with the dimensionality correctly determined			
							EKC	Kaiser	ParaAn	ProfLik
100	1	10	0.1	Pearson	paf	1000	0.987	0.944	0.306	0.996
100	1	10	0.1	Pearson	pca	1000	0.191	0.159	0.931	0.995
100	1	10	0.1	Tetrachoric	paf	1000	0.913	0.910	0.426	1.000
100	1	10	0.1	Tetrachoric	pca	1000	0.543	0.543	0.945	1.000
100	1	10	0.25	Pearson	paf	1000	1.000	1.000	0.957	1.000

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100	1	10	0.25	Pearson	pca	1000	0.833	0.802	1.000	1.000
100	1	10	0.25	Tetrachoric	paf	1000	0.997	0.997	0.666	1.000
100	1	10	0.25	Tetrachoric	pca	1000	0.951	0.951	1.000	1.000
100	1	10	0.5	Pearson	paf	1000	1.000	1.000	0.999	1.000
100	1	10	0.5	Pearson	pca	1000	0.981	0.979	1.000	1.000
100	1	10	0.5	Tetrachoric	paf	1000	0.999	0.999	0.819	1.000
100	1	10	0.5	Tetrachoric	pca	1000	0.991	0.991	1.000	1.000
100	1	3	0.1	Pearson	paf	986	0.209	0.634	0.972	1.000
100	1	3	0.1	Pearson	pca	986	0.983	0.989	0.998	0.989
100	1	3	0.1	Tetrachoric	paf	986	0.940	0.990	0.812	1.000
100	1	3	0.1	Tetrachoric	pca	986	0.994	0.994	0.998	0.994
100	1	3	0.25	Pearson	paf	1000	0.327	0.864	1.000	1.000
100	1	3	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
100	1	3	0.25	Tetrachoric	paf	1000	0.981	0.998	0.954	1.000
100	1	3	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
100	1	3	0.5	Pearson	paf	1000	0.426	0.962	0.999	1.000
100	1	3	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
100	1	3	0.5	Tetrachoric	paf	1000	0.996	1.000	0.977	1.000
100	1	3	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
100	1	5	0.1	Pearson	paf	999	0.896	0.991	0.739	0.998
100	1	5	0.1	Pearson	pca	999	0.868	0.814	0.986	0.988
100	1	5	0.1	Tetrachoric	paf	999	0.988	0.988	0.452	0.999
100	1	5	0.1	Tetrachoric	pca	999	0.936	0.936	0.993	0.999
100	1	5	0.25	Pearson	paf	1000	0.994	1.000	0.974	1.000
100	1	5	0.25	Pearson	pca	1000	0.996	0.996	1.000	1.000
100	1	5	0.25	Tetrachoric	paf	1000	1.000	1.000	0.723	1.000
100	1	5	0.25	Tetrachoric	pca	1000	0.999	0.999	1.000	1.000
100	1	5	0.5	Pearson	paf	1000	0.999	1.000	0.992	1.000
100	1	5	0.5	Pearson	pca	1000	1.000	0.999	1.000	1.000
100	1	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.866	1.000
100	1	5	0.5	Tetrachoric	pca	1000	0.999	0.999	1.000	1.000
100	10	10	0.1	Pearson	paf	997	0.000	0.000	0.522	0.071
100	10	10	0.1	Pearson	pca	997	0.000	0.000	0.553	0.080
100	10	10	0.1	Tetrachoric	paf	997	0.163	0.000	0.085	0.000
100	10	10	0.1	Tetrachoric	pca	997	0.000	0.000	0.392	0.001
100	10	10	0.25	Pearson	paf	1000	0.053	0.000	0.655	0.032
100	10	10	0.25	Pearson	pca	1000	0.033	0.000	0.639	0.032
100	10	10	0.25	Tetrachoric	paf	1000	0.358	0.000	0.153	0.000
100	10	10	0.25	Tetrachoric	pca	1000	0.000	0.000	0.723	0.003
100	10	10	0.5	Pearson	paf	1000	0.557	0.000	0.700	0.032
100	10	10	0.5	Pearson	pca	1000	0.467	0.000	0.690	0.032
100	10	10	0.5	Tetrachoric	paf	1000	0.495	0.000	0.332	0.000
100	10	10	0.5	Tetrachoric	pca	1000	0.000	0.000	0.815	0.004
100	10	3	0.1	Pearson	paf	999	0.000	0.000	0.271	0.001

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100	10	3	0.1	Pearson	pca	999	0.141	0.480	0.000	0.002
100	10	3	0.1	Tetrachoric	paf	999	0.008	0.008	0.085	0.000
100	10	3	0.1	Tetrachoric	pca	999	0.431	0.431	0.002	0.000
100	10	3	0.25	Pearson	paf	1000	0.000	0.000	0.334	0.000
100	10	3	0.25	Pearson	pca	1000	0.144	0.723	0.001	0.001
100	10	3	0.25	Tetrachoric	paf	1000	0.009	0.009	0.177	0.000
100	10	3	0.25	Tetrachoric	pca	1000	0.443	0.443	0.001	0.000
100	10	3	0.5	Pearson	paf	1000	0.000	0.000	0.370	0.000
100	10	3	0.5	Pearson	pca	1000	0.247	0.791	0.000	0.001
100	10	3	0.5	Tetrachoric	paf	1000	0.021	0.022	0.346	0.000
100	10	3	0.5	Tetrachoric	pca	1000	0.513	0.513	0.004	0.000
100	10	5	0.1	Pearson	paf	999	0.028	0.007	0.292	0.023
100	10	5	0.1	Pearson	pca	999	0.089	0.000	0.070	0.043
100	10	5	0.1	Tetrachoric	paf	999	0.124	0.306	0.109	0.000
100	10	5	0.1	Tetrachoric	pca	999	0.000	0.000	0.186	0.002
100	10	5	0.25	Pearson	paf	1000	0.008	0.609	0.487	0.007
100	10	5	0.25	Pearson	pca	1000	0.715	0.000	0.038	0.010
100	10	5	0.25	Tetrachoric	paf	1000	0.307	0.476	0.227	0.000
100	10	5	0.25	Tetrachoric	pca	1000	0.001	0.001	0.117	0.000
100	10	5	0.5	Pearson	paf	1000	0.011	0.933	0.449	0.002
100	10	5	0.5	Pearson	pca	1000	0.898	0.000	0.047	0.003
100	10	5	0.5	Tetrachoric	paf	1000	0.567	0.721	0.432	0.000
100	10	5	0.5	Tetrachoric	pca	1000	0.005	0.005	0.168	0.000
100	3	10	0.1	Pearson	paf	1000	0.756	0.021	0.240	0.798
100	3	10	0.1	pearson	pca	1000	0.003	0.000	0.890	0.821
100	3	10	0.1	Tetrachoric	paf	1000	0.189	0.158	0.376	0.500
100	3	10	0.1	Tetrachoric	pca	1000	0.000	0.000	0.685	0.574
100	3	10	0.25	Pearson	paf	1000	1.000	0.886	0.992	0.828
100	3	10	0.25	Pearson	pca	1000	0.350	0.000	1.000	0.845
100	3	10	0.25	Tetrachoric	paf	1000	0.569	0.564	0.856	0.617
100	3	10	0.25	Tetrachoric	pca	1000	0.004	0.004	0.997	0.673
100	3	10	0.5	Pearson	paf	1000	1.000	0.997	1.000	0.783
100	3	10	0.5	Pearson	pca	1000	0.728	0.033	1.000	0.796
100	3	10	0.5	Tetrachoric	paf	1000	0.826	0.826	0.970	0.610
100	3	10	0.5	Tetrachoric	pca	1000	0.107	0.107	1.000	0.654
100	3	3	0.1	Pearson	paf	1000	0.001	0.087	0.751	0.425
100	3	3	0.1	Pearson	pca	1000	0.841	0.860	0.715	0.629
100	3	3	0.1	Tetrachoric	paf	1000	0.444	0.492	0.460	0.267
100	3	3	0.1	Tetrachoric	pca	1000	0.903	0.903	0.741	0.445
100	3	3	0.25	Pearson	paf	1000	0.000	0.108	0.970	0.461
100	3	3	0.25	Pearson	pca	1000	0.988	0.995	0.817	0.643
100	3	3	0.25	Tetrachoric	paf	1000	0.697	0.723	0.437	0.385
100	3	3	0.25	Tetrachoric	pca	1000	0.977	0.977	0.835	0.482
100	3	3	0.5	Pearson	paf	1000	0.000	0.104	0.996	0.457

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100	3	3	0.5	Pearson	pca	1000	0.999	0.999	0.847	0.635
100	3	3	0.5	Tetrachoric	paf	1000	0.828	0.841	0.414	0.437
100	3	3	0.5	Tetrachoric	pca	1000	0.992	0.992	0.893	0.517
100	3	5	0.1	Pearson	paf	1000	0.481	0.924	0.502	0.671
100	3	5	0.1	Pearson	pca	1000	0.368	0.142	0.911	0.741
100	3	5	0.1	Tetrachoric	paf	1000	0.864	0.875	0.386	0.401
100	3	5	0.1	Tetrachoric	pca	1000	0.331	0.331	0.891	0.497
100	3	5	0.25	Pearson	paf	1000	0.756	0.984	0.974	0.702
100	3	5	0.25	Pearson	pca	1000	0.891	0.808	0.989	0.772
100	3	5	0.25	Tetrachoric	paf	1000	0.987	0.988	0.502	0.506
100	3	5	0.25	Tetrachoric	pca	1000	0.843	0.843	0.992	0.581
100	3	5	0.5	Pearson	paf	1000	0.853	0.998	1.000	0.675
100	3	5	0.5	Pearson	pca	1000	0.989	0.973	0.998	0.745
100	3	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.613	0.574
100	3	5	0.5	Tetrachoric	pca	1000	0.980	0.980	0.998	0.622
100	5	10	0.1	Pearson	paf	997	0.227	0.000	0.245	0.504
100	5	10	0.1	Pearson	pca	997	0.001	0.000	0.813	0.521
100	5	10	0.1	Tetrachoric	paf	997	0.089	0.009	0.530	0.112
100	5	10	0.1	Tetrachoric	pca	997	0.000	0.000	0.438	0.202
100	5	10	0.25	Pearson	paf	1000	1.000	0.002	1.000	0.532
100	5	10	0.25	Pearson	pca	1000	0.220	0.000	0.999	0.559
100	5	10	0.25	Tetrachoric	paf	1000	0.245	0.096	0.973	0.184
100	5	10	0.25	Tetrachoric	pca	1000	0.000	0.000	0.996	0.273
100	5	10	0.5	Pearson	paf	1000	1.000	0.102	1.000	0.501
100	5	10	0.5	Pearson	pca	1000	0.717	0.000	1.000	0.528
100	5	10	0.5	Tetrachoric	paf	1000	0.351	0.243	1.000	0.245
100	5	10	0.5	Tetrachoric	pca	1000	0.000	0.000	1.000	0.304
100	5	3	0.1	Pearson	paf	1000	0.000	0.003	0.529	0.097
100	5	3	0.1	Pearson	pca	1000	0.620	0.686	0.270	0.250
100	5	3	0.1	Tetrachoric	paf	1000	0.118	0.128	0.339	0.024
100	5	3	0.1	Tetrachoric	pca	1000	0.711	0.711	0.312	0.088
100	5	3	0.25	Pearson	paf	1000	0.000	0.004	0.912	0.100
100	5	3	0.25	Pearson	pca	1000	0.907	0.964	0.361	0.255
100	5	3	0.25	Tetrachoric	paf	1000	0.269	0.283	0.414	0.043
100	5	3	0.25	Tetrachoric	pca	1000	0.886	0.886	0.402	0.107
100	5	3	0.5	Pearson	paf	1000	0.000	0.004	0.954	0.085
100	5	3	0.5	Pearson	pca	1000	0.950	0.978	0.386	0.244
100	5	3	0.5	Tetrachoric	paf	1000	0.462	0.475	0.368	0.073
100	5	3	0.5	Tetrachoric	pca	1000	0.945	0.945	0.490	0.127
100	5	5	0.1	Pearson	paf	1000	0.164	0.876	0.373	0.301
100	5	5	0.1	Pearson	pca	1000	0.204	0.003	0.732	0.408
100	5	5	0.1	Tetrachoric	paf	1000	0.565	0.624	0.402	0.046
100	5	5	0.1	Tetrachoric	pca	1000	0.046	0.046	0.714	0.127
100	5	5	0.25	Pearson	paf	1000	0.293	0.973	0.960	0.300

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100	5	5	0.25	Pearson	pca	1000	0.797	0.235	0.860	0.393
100	5	5	0.25	Tetrachoric	paf	1000	0.914	0.923	0.619	0.092
100	5	5	0.25	Tetrachoric	pca	1000	0.318	0.318	0.895	0.169
100	5	5	0.5	Pearson	paf	1000	0.441	0.984	0.999	0.284
100	5	5	0.5	Pearson	pca	1000	0.939	0.644	0.896	0.385
100	5	5	0.5	Tetrachoric	paf	1000	0.988	0.989	0.768	0.132
100	5	5	0.5	Tetrachoric	pca	1000	0.714	0.714	0.945	0.208
250	1	10	0.1	Pearson	paf	1000	1.000	1.000	0.468	1.000
250	1	10	0.1	Pearson	pca	1000	0.719	0.717	0.998	1.000
250	1	10	0.1	Tetrachoric	paf	1000	0.997	0.997	0.129	1.000
250	1	10	0.1	Tetrachoric	pca	1000	0.978	0.978	0.998	1.000
250	1	10	0.25	Pearson	paf	1000	1.000	1.000	0.988	1.000
250	1	10	0.25	Pearson	pca	1000	0.999	0.999	1.000	1.000
250	1	10	0.25	Tetrachoric	paf	1000	1.000	1.000	0.662	1.000
250	1	10	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
250	1	10	0.5	Pearson	paf	1000	1.000	1.000	1.000	1.000
250	1	10	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
250	1	10	0.5	Tetrachoric	paf	1000	1.000	1.000	0.911	1.000
250	1	10	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
250	1	3	0.1	Pearson	paf	1000	0.235	0.632	1.000	1.000
250	1	3	0.1	Pearson	pca	1000	1.000	1.000	1.000	1.000
250	1	3	0.1	Tetrachoric	paf	1000	0.998	1.000	0.950	1.000
250	1	3	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
250	1	3	0.25	Pearson	paf	1000	0.564	0.956	1.000	1.000
250	1	3	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
250	1	3	0.25	Tetrachoric	paf	1000	1.000	1.000	0.999	1.000
250	1	3	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
250	1	3	0.5	Pearson	paf	1000	0.765	0.995	1.000	1.000
250	1	3	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
250	1	3	0.5	Tetrachoric	paf	1000	1.000	1.000	1.000	1.000
250	1	3	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
250	1	5	0.1	Pearson	paf	1000	0.994	1.000	0.899	1.000
250	1	5	0.1	Pearson	pca	1000	0.993	0.993	1.000	1.000
250	1	5	0.1	Tetrachoric	paf	1000	1.000	1.000	0.514	1.000
250	1	5	0.1	Tetrachoric	pca	1000	0.999	0.999	1.000	1.000
250	1	5	0.25	Pearson	paf	1000	1.000	1.000	1.000	1.000
250	1	5	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
250	1	5	0.25	Tetrachoric	paf	1000	1.000	1.000	0.899	1.000
250	1	5	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
250	1	5	0.5	Pearson	paf	1000	1.000	1.000	1.000	1.000
250	1	5	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
250	1	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.973	1.000
250	1	5	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
250	10	10	0.1	Pearson	paf	1000	0.906	0.000	0.258	0.324

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250	10	10	0.1	Pearson	pca	1000	0.000	0.000	0.989	0.378
250	10	10	0.1	Tetrachoric	paf	1000	0.002	0.000	0.077	0.001
250	10	10	0.1	Tetrachoric	pca	1000	0.000	0.000	0.123	0.009
250	10	10	0.25	Pearson	paf	1000	1.000	0.094	1.000	0.204
250	10	10	0.25	Pearson	pca	1000	0.147	0.000	1.000	0.237
250	10	10	0.25	Tetrachoric	paf	1000	0.012	0.010	0.899	0.004
250	10	10	0.25	Tetrachoric	pca	1000	0.000	0.000	1.000	0.007
250	10	10	0.5	Pearson	paf	1000	1.000	0.953	1.000	0.054
250	10	10	0.5	Pearson	pca	1000	0.787	0.000	1.000	0.074
250	10	10	0.5	Tetrachoric	paf	1000	0.142	0.142	0.999	0.005
250	10	10	0.5	Tetrachoric	pca	1000	0.000	0.000	1.000	0.009
250	10	3	0.1	Pearson	paf	1000	0.000	0.000	0.471	0.001
250	10	3	0.1	Pearson	pca	1000	0.868	0.862	0.134	0.031
250	10	3	0.1	Tetrachoric	paf	1000	0.017	0.017	0.173	0.000
250	10	3	0.1	Tetrachoric	pca	1000	0.576	0.576	0.058	0.000
250	10	3	0.25	Pearson	paf	1000	0.000	0.000	0.980	0.002
250	10	3	0.25	Pearson	pca	1000	0.994	0.994	0.287	0.023
250	10	3	0.25	Tetrachoric	paf	1000	0.138	0.138	0.027	0.000
250	10	3	0.25	Tetrachoric	pca	1000	0.881	0.881	0.209	0.000
250	10	3	0.5	Pearson	paf	1000	0.000	0.000	0.999	0.000
250	10	3	0.5	Pearson	pca	1000	0.995	0.995	0.372	0.006
250	10	3	0.5	Tetrachoric	paf	1000	0.363	0.363	0.012	0.000
250	10	3	0.5	Tetrachoric	pca	1000	0.963	0.963	0.405	0.000
250	10	5	0.1	Pearson	paf	1000	0.009	0.860	0.204	0.067
250	10	5	0.1	Pearson	pca	1000	0.073	0.000	0.904	0.158
250	10	5	0.1	Tetrachoric	paf	1000	0.570	0.575	0.084	0.000
250	10	5	0.1	Tetrachoric	pca	1000	0.000	0.000	0.723	0.001
250	10	5	0.25	Pearson	paf	1000	0.116	0.978	0.998	0.043
250	10	5	0.25	Pearson	pca	1000	0.840	0.381	0.978	0.100
250	10	5	0.25	Tetrachoric	paf	1000	0.972	0.972	0.161	0.000
250	10	5	0.25	Tetrachoric	pca	1000	0.369	0.369	0.978	0.002
250	10	5	0.5	Pearson	paf	1000	0.373	0.998	1.000	0.008
250	10	5	0.5	Pearson	pca	1000	0.984	0.944	0.997	0.023
250	10	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.272	0.001
250	10	5	0.5	Tetrachoric	pca	1000	0.939	0.939	0.999	0.002
250	3	10	0.1	Pearson	paf	1000	1.000	1.000	0.398	0.952
250	3	10	0.1	Pearson	pca	1000	0.007	0.003	1.000	0.962
250	3	10	0.1	Tetrachoric	paf	1000	0.650	0.650	0.029	0.695
250	3	10	0.1	Tetrachoric	pca	1000	0.011	0.011	0.924	0.746
250	3	10	0.25	Pearson	paf	1000	1.000	1.000	1.000	0.962
250	3	10	0.25	Pearson	pca	1000	0.797	0.791	1.000	0.966
250	3	10	0.25	Tetrachoric	paf	1000	1.000	1.000	0.265	0.813
250	3	10	0.25	Tetrachoric	pca	1000	0.877	0.877	1.000	0.831
250	3	10	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.951

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250	3	10	0.5	Pearson	pca	1000	0.996	0.996	1.000	0.961
250	3	10	0.5	Tetrachoric	paf	1000	1.000	1.000	0.532	0.861
250	3	10	0.5	Tetrachoric	pca	1000	0.997	0.997	1.000	0.872
250	3	3	0.1	Pearson	paf	1000	0.002	0.020	0.970	0.642
250	3	3	0.1	Pearson	pca	1000	0.998	0.998	0.980	0.866
250	3	3	0.1	Tetrachoric	paf	1000	0.791	0.793	0.209	0.433
250	3	3	0.1	Tetrachoric	pca	1000	0.986	0.986	0.958	0.552
250	3	3	0.25	Pearson	paf	1000	0.001	0.045	0.999	0.655
250	3	3	0.25	Pearson	pca	1000	1.000	1.000	0.998	0.862
250	3	3	0.25	Tetrachoric	paf	1000	0.926	0.926	0.327	0.542
250	3	3	0.25	Tetrachoric	pca	1000	1.000	1.000	0.993	0.632
250	3	3	0.5	Pearson	paf	1000	0.001	0.051	1.000	0.597
250	3	3	0.5	Pearson	pca	1000	1.000	1.000	0.997	0.828
250	3	3	0.5	Tetrachoric	paf	1000	0.941	0.941	0.636	0.557
250	3	3	0.5	Tetrachoric	pca	1000	1.000	1.000	0.998	0.657
250	3	5	0.1	Pearson	paf	1000	0.794	0.976	0.758	0.880
250	3	5	0.1	Pearson	pca	1000	0.850	0.843	1.000	0.929
250	3	5	0.1	Tetrachoric	paf	1000	0.993	0.993	0.109	0.578
250	3	5	0.1	Tetrachoric	pca	1000	0.852	0.852	0.992	0.662
250	3	5	0.25	Pearson	paf	1000	0.994	1.000	0.999	0.889
250	3	5	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.927
250	3	5	0.25	Tetrachoric	paf	1000	1.000	1.000	0.093	0.709
250	3	5	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.739
250	3	5	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.864
250	3	5	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.926
250	3	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.214	0.764
250	3	5	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.786
250	5	10	0.1	Pearson	paf	1000	1.000	0.802	0.321	0.850
250	5	10	0.1	Pearson	pca	1000	0.000	0.000	0.995	0.888
250	5	10	0.1	Tetrachoric	paf	1000	0.120	0.120	0.022	0.293
250	5	10	0.1	Tetrachoric	pca	1000	0.000	0.000	0.675	0.398
250	5	10	0.25	Pearson	paf	1000	1.000	1.000	1.000	0.867
250	5	10	0.25	Pearson	pca	1000	0.366	0.019	1.000	0.901
250	5	10	0.25	Tetrachoric	paf	1000	0.817	0.817	0.469	0.439
250	5	10	0.25	Tetrachoric	pca	1000	0.040	0.040	1.000	0.503
250	5	10	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.788
250	5	10	0.5	Pearson	pca	1000	0.790	0.404	1.000	0.817
250	5	10	0.5	Tetrachoric	paf	1000	0.976	0.976	0.831	0.478
250	5	10	0.5	Tetrachoric	pca	1000	0.473	0.473	1.000	0.525
250	5	3	0.1	Pearson	paf	1000	0.000	0.000	0.886	0.259
250	5	3	0.1	Pearson	pca	1000	0.988	0.987	0.876	0.594
250	5	3	0.1	Tetrachoric	paf	1000	0.352	0.352	0.155	0.060
250	5	3	0.1	Tetrachoric	pca	1000	0.929	0.929	0.706	0.166
250	5	3	0.25	Pearson	paf	1000	0.000	0.000	1.000	0.230

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250	5	3	0.25	Pearson	pca	1000	1.000	1.000	0.963	0.564
250	5	3	0.25	Tetrachoric	paf	1000	0.801	0.801	0.064	0.132
250	5	3	0.25	Tetrachoric	pca	1000	0.997	0.997	0.930	0.213
250	5	3	0.5	Pearson	paf	1000	0.000	0.000	1.000	0.175
250	5	3	0.5	Pearson	pca	1000	1.000	1.000	0.970	0.475
250	5	3	0.5	Tetrachoric	paf	1000	0.866	0.866	0.096	0.163
250	5	3	0.5	Tetrachoric	pca	1000	1.000	1.000	0.968	0.238
250	5	5	0.1	Pearson	paf	1000	0.379	0.929	0.566	0.642
250	5	5	0.1	Pearson	pca	1000	0.377	0.335	0.999	0.780
250	5	5	0.1	Tetrachoric	paf	1000	0.929	0.929	0.052	0.163
250	5	5	0.1	Tetrachoric	pca	1000	0.308	0.308	0.964	0.283
250	5	5	0.25	Pearson	paf	1000	0.893	0.994	0.994	0.634
250	5	5	0.25	Pearson	pca	1000	0.993	0.993	1.000	0.774
250	5	5	0.25	Tetrachoric	paf	1000	1.000	1.000	0.051	0.268
250	5	5	0.25	Tetrachoric	pca	1000	0.992	0.992	1.000	0.331
250	5	5	0.5	Pearson	paf	1000	0.983	1.000	1.000	0.529
250	5	5	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.672
250	5	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.105	0.312
250	5	5	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.359
1000	1	10	0.1	Pearson	paf	1000	1.000	1.000	0.849	1.000
1000	1	10	0.1	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	10	0.1	Tetrachoric	paf	1000	1.000	1.000	0.257	1.000
1000	1	10	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	10	0.25	Pearson	paf	1000	1.000	1.000	0.999	1.000
1000	1	10	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	10	0.25	Tetrachoric	paf	1000	1.000	1.000	0.954	1.000
1000	1	10	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	10	0.5	Pearson	paf	1000	1.000	1.000	1.000	1.000
1000	1	10	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	10	0.5	Tetrachoric	paf	1000	1.000	1.000	0.998	1.000
1000	1	10	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	3	0.1	Pearson	paf	1000	0.311	0.719	1.000	1.000
1000	1	3	0.1	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	3	0.1	Tetrachoric	paf	1000	1.000	1.000	1.000	1.000
1000	1	3	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	3	0.25	Pearson	paf	1000	0.967	0.999	1.000	1.000
1000	1	3	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	3	0.25	Tetrachoric	paf	1000	1.000	1.000	1.000	1.000
1000	1	3	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	3	0.5	Pearson	paf	1000	1.000	1.000	1.000	1.000
1000	1	3	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	3	0.5	Tetrachoric	paf	1000	1.000	1.000	1.000	1.000
1000	1	3	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	5	0.1	Pearson	paf	1000	1.000	1.000	0.997	1.000

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1000	1	5	0.1	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	5	0.1	Tetrachoric	paf	1000	1.000	1.000	0.915	1.000
1000	1	5	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	5	0.25	Pearson	paf	1000	1.000	1.000	1.000	1.000
1000	1	5	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	5	0.25	Tetrachoric	paf	1000	1.000	1.000	1.000	1.000
1000	1	5	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	1	5	0.5	Pearson	paf	1000	1.000	1.000	1.000	1.000
1000	1	5	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	1	5	0.5	Tetrachoric	paf	1000	1.000	1.000	1.000	1.000
1000	1	5	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	1.000
1000	10	10	0.1	Pearson	paf	1000	1.000	1.000	0.800	0.941
1000	10	10	0.1	Pearson	pca	1000	0.000	0.000	1.000	0.963
1000	10	10	0.1	Tetrachoric	paf	1000	0.514	0.514	0.000	0.002
1000	10	10	0.1	Tetrachoric	pca	1000	0.000	0.000	1.000	0.002
1000	10	10	0.25	Pearson	paf	1000	1.000	1.000	1.000	0.038
1000	10	10	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.070
1000	10	10	0.25	Tetrachoric	paf	1000	1.000	1.000	0.000	0.000
1000	10	10	0.25	Tetrachoric	pca	1000	0.998	0.998	1.000	0.000
1000	10	10	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.000
1000	10	10	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.000
1000	10	10	0.5	Tetrachoric	paf	1000	1.000	1.000	0.001	0.000
1000	10	10	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.000
1000	10	3	0.1	Pearson	paf	1000	0.000	0.000	0.999	0.081
1000	10	3	0.1	Pearson	pca	1000	1.000	1.000	1.000	0.599
1000	10	3	0.1	Tetrachoric	paf	1000	0.598	0.598	0.000	0.000
1000	10	3	0.1	Tetrachoric	pca	1000	0.998	0.998	0.954	0.000
1000	10	3	0.25	Pearson	paf	1000	0.000	0.000	1.000	0.000
1000	10	3	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.001
1000	10	3	0.25	Tetrachoric	paf	1000	0.886	0.886	0.000	0.000
1000	10	3	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.000
1000	10	3	0.5	Pearson	paf	1000	0.000	0.000	1.000	0.000
1000	10	3	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.000
1000	10	3	0.5	Tetrachoric	paf	1000	0.917	0.917	0.092	0.000
1000	10	3	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.000
1000	10	5	0.1	Pearson	paf	1000	0.804	0.996	0.927	0.705
1000	10	5	0.1	Pearson	pca	1000	1.000	1.000	1.000	0.884
1000	10	5	0.1	Tetrachoric	paf	1000	1.000	1.000	0.000	0.000
1000	10	5	0.1	Tetrachoric	pca	1000	0.986	0.986	1.000	0.001
1000	10	5	0.25	Pearson	paf	1000	1.000	1.000	1.000	0.002
1000	10	5	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.021
1000	10	5	0.25	Tetrachoric	paf	1000	1.000	1.000	0.000	0.000
1000	10	5	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.000
1000	10	5	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.000

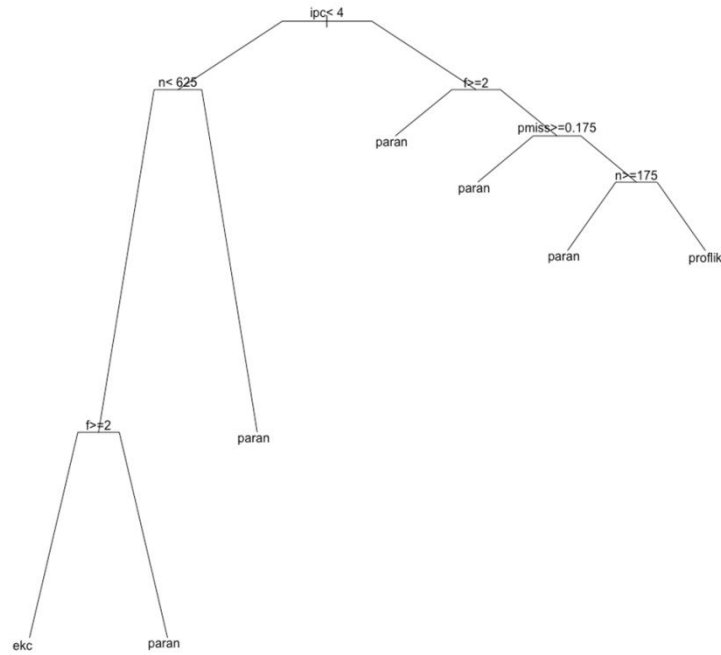
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1000	10	5	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.000
1000	10	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.000	0.000
1000	10	5	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.000
1000	3	10	0.1	Pearson	paf	1000	1.000	1.000	0.924	1.000
1000	3	10	0.1	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	3	10	0.1	Tetrachoric	paf	1000	1.000	1.000	0.000	0.942
1000	3	10	0.1	Tetrachoric	pca	1000	0.999	0.999	1.000	0.951
1000	3	10	0.25	Pearson	paf	1000	1.000	1.000	1.000	1.000
1000	3	10	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	3	10	0.25	Tetrachoric	paf	1000	1.000	1.000	0.003	0.980
1000	3	10	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.983
1000	3	10	0.5	Pearson	paf	1000	1.000	1.000	1.000	1.000
1000	3	10	0.5	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	3	10	0.5	Tetrachoric	paf	1000	1.000	1.000	0.631	0.995
1000	3	10	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.996
1000	3	3	0.1	Pearson	paf	1000	0.000	0.000	1.000	0.962
1000	3	3	0.1	Pearson	pca	1000	1.000	1.000	1.000	0.999
1000	3	3	0.1	Tetrachoric	paf	1000	0.980	0.980	0.296	0.650
1000	3	3	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	0.759
1000	3	3	0.25	Pearson	paf	1000	0.000	0.001	1.000	0.919
1000	3	3	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.993
1000	3	3	0.25	Tetrachoric	paf	1000	0.997	0.997	0.974	0.718
1000	3	3	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.866
1000	3	3	0.5	Pearson	paf	1000	0.006	0.006	1.000	0.814
1000	3	3	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.987
1000	3	3	0.5	Tetrachoric	paf	1000	1.000	1.000	0.999	0.707
1000	3	3	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.865
1000	3	5	0.1	Pearson	paf	1000	1.000	1.000	0.997	1.000
1000	3	5	0.1	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	3	5	0.1	Tetrachoric	paf	1000	1.000	1.000	0.001	0.883
1000	3	5	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	0.906
1000	3	5	0.25	Pearson	paf	1000	1.000	1.000	1.000	1.000
1000	3	5	0.25	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	3	5	0.25	Tetrachoric	paf	1000	1.000	1.000	0.465	0.941
1000	3	5	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.960
1000	3	5	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.995
1000	3	5	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.999
1000	3	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.935	0.949
1000	3	5	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.969
1000	5	10	0.1	Pearson	paf	1000	1.000	1.000	0.899	1.000
1000	5	10	0.1	Pearson	pca	1000	0.948	0.948	1.000	1.000
1000	5	10	0.1	Tetrachoric	paf	1000	1.000	1.000	0.000	0.595
1000	5	10	0.1	Tetrachoric	pca	1000	0.835	0.835	1.000	0.646
1000	5	10	0.25	Pearson	paf	1000	1.000	1.000	1.000	0.998

1000	5	10	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.998
1000	5	10	0.25	Tetrachoric	paf	1000	1.000	1.000	0.000	0.546
1000	5	10	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.567
1000	5	10	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.931
1000	5	10	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.955
1000	5	10	0.5	Tetrachoric	paf	1000	1.000	1.000	0.002	0.503
1000	5	10	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.528
1000	5	3	0.1	Pearson	paf	1000	0.000	0.000	1.000	0.836
1000	5	3	0.1	Pearson	pca	1000	1.000	1.000	1.000	0.993
1000	5	3	0.1	Tetrachoric	paf	1000	0.963	0.963	0.007	0.201
1000	5	3	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	0.304
1000	5	3	0.25	Pearson	paf	1000	0.000	0.000	1.000	0.346
1000	5	3	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.857
1000	5	3	0.25	Tetrachoric	paf	1000	0.993	0.993	0.634	0.073
1000	5	3	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.168
1000	5	3	0.5	Pearson	paf	1000	0.000	0.000	1.000	0.079
1000	5	3	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.540
1000	5	3	0.5	Tetrachoric	paf	1000	0.995	0.995	0.960	0.038
1000	5	3	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.112
1000	5	5	0.1	Pearson	paf	1000	0.997	1.000	0.993	0.998
1000	5	5	0.1	Pearson	pca	1000	1.000	1.000	1.000	1.000
1000	5	5	0.1	Tetrachoric	paf	1000	1.000	1.000	0.000	0.432
1000	5	5	0.1	Tetrachoric	pca	1000	1.000	1.000	1.000	0.478
1000	5	5	0.25	Pearson	paf	1000	1.000	1.000	1.000	0.919
1000	5	5	0.25	Pearson	pca	1000	1.000	1.000	1.000	0.978
1000	5	5	0.25	Tetrachoric	paf	1000	1.000	1.000	0.005	0.307
1000	5	5	0.25	Tetrachoric	pca	1000	1.000	1.000	1.000	0.372
1000	5	5	0.5	Pearson	paf	1000	1.000	1.000	1.000	0.669
1000	5	5	0.5	Pearson	pca	1000	1.000	1.000	1.000	0.845
1000	5	5	0.5	Tetrachoric	paf	1000	1.000	1.000	0.422	0.225
1000	5	5	0.5	Tetrachoric	pca	1000	1.000	1.000	1.000	0.308

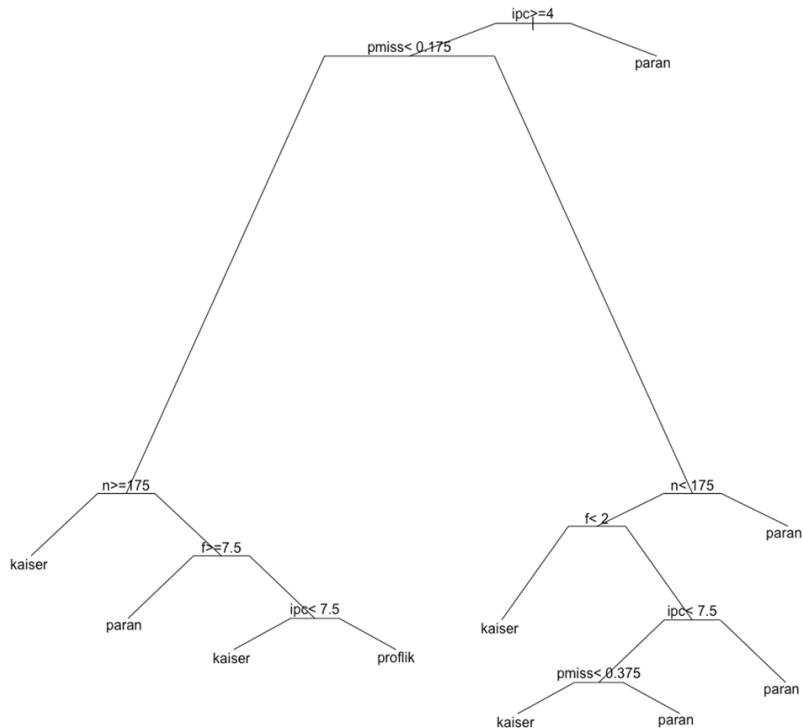
Note: F=number of underlying dimensions, Rep Cvg=Replications converged, PAF=Principal axis factoring, PCA=Principal component analysis, EKC=Empirical Kaiser Criterion, Kaiser=Eigenvalue>1, ParaAn=Parallel analysis, ProfLik=Profile likelihood.

Figure 1. Decision Tree of Dimensionality Determination Criterion for PCA with Tetrachoric Correlations.



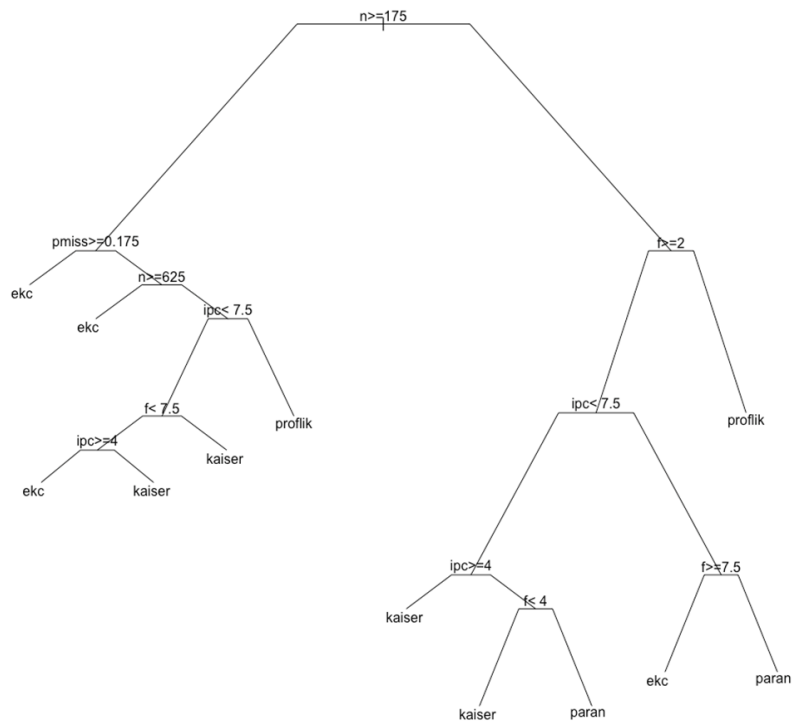
Note: Left if node statement true; right if node statement false.

Figure 2. Decision Tree of Dimensionality Determination Criterion for PAF with Pearson Correlations.



Note: Left if node statement true; right if node statement false.

Figure 3. Decision Tree of Dimensionality Determination Criterion for PAF with Tetrachoric Correlations.



Note: Left if node statement true; right if node statement false.