

Simulation Tables

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Table 1: Model results for simulated data with $n = 1500$, $k = 4$, $p = 1$, $h = 3$, $v = 1$. 5000 iterations were run with a burn in of 1000. Missingness mechanism was MAR and $P(\text{miss}) = 0$

Model Component	Parameter	Class 1		Class 2		Class 3	
		True	Est. (95% CrI)	True	Est. (95% CrI)	True	Est. (95% CrI)
MVSN Regression	β_0	-1.35	-1.59 (-2.3, -0.94)	-0.18	-0.24 (-0.53, 0.38)	0.72	0.79 (0.52, 1.02)
	β_1	-1.19	-1.35 (-1.99, -0.84)	-0.09	-0.33 (-0.62, 0.78)	1.64	1.65 (1.33, 1.91)
	β_2	-1.65	-1.81 (-2.66, -1.41)	-0.47	-0.62 (-0.89, 0.3)	1.44	1.32 (0.97, 1.6)
	β_3	-1.75	-1.89 (-2.52, -1.37)	-0.22	-0.32 (-0.63, 0.55)	2.28	2.26 (1.96, 2.5)
	σ_{11}	1	1.02 (0.78, 1.19)	1	0.98 (0.77, 1.23)	1	1.06 (0.85, 1.29)
	σ_{12}	-0.32	-0.19 (-0.33, -0.02)	0.16	0.14 (-0.01, 0.4)	0.72	0.82 (0.62, 1.05)
	σ_{13}	-0.65	-0.55 (-0.68, -0.35)	0.72	0.7 (0.51, 0.94)	0.14	0.27 (0.1, 0.48)
	σ_{14}	-0.44	-0.33 (-0.46, -0.13)	0.5	0.48 (0.31, 0.72)	-0.01	-0.02 (-0.16, 0.16)
	σ_{22}	1	0.92 (0.72, 1.06)	1	0.94 (0.72, 1.22)	1	1.11 (0.87, 1.38)
	σ_{23}	0.56	0.49 (0.33, 0.6)	0.53	0.46 (0.29, 0.73)	-0.1	0.08 (-0.1, 0.28)
	σ_{24}	0.98	0.9 (0.7, 1.04)	0.24	0.14 (-0.03, 0.41)	0.19	0.17 (0.01, 0.37)
	σ_{33}	1	0.9 (0.66, 1.04)	1	0.92 (0.72, 1.19)	1	1.26 (1.03, 1.52)
	σ_{34}	0.56	0.51 (0.35, 0.62)	0.86	0.79 (0.58, 1.05)	-0.65	-0.63 (-0.78, -0.45)
	σ_{44}	1	0.93 (0.72, 1.07)	1	0.93 (0.7, 1.2)	1	1.11 (0.87, 1.36)
	ψ_1	-0.33	-0.02 (-0.84, 0.87)	0.67	0.69 (-0.09, 1.01)	-1	-0.98 (-1.25, -0.67)
	ψ_2	-0.33	-0.16 (-0.8, 0.62)	0.67	0.81 (-0.6, 1.14)	-1	-0.98 (-1.28, -0.6)
	ψ_3	-0.33	-0.15 (-0.65, 0.89)	0.67	0.72 (-0.35, 1.02)	-1	-0.8 (-1.15, -0.36)
	ψ_4	-0.33	-0.18 (-0.84, 0.59)	0.67	0.71 (-0.32, 1.06)	-1	-1 (-1.32, -0.62)
Multinom.	δ_{11}	-0.84	-0.78 (-0.96, -0.59)	-0.84	-0.78 (-0.96, -0.59)	-0.84	-0.78 (-0.96, -0.59)
	δ_{12}	-0.24	-0.26 (-0.42, -0.1)	-0.24	-0.26 (-0.42, -0.1)	-0.24	-0.26 (-0.42, -0.1)
Clustering	π_l	0.39	0.39 (0.38, 0.4)	0.26	0.26 (0.25, 0.27)	0.34	0.35 (0.33, 0.36)