

Simulation Tables

Carter Allen

Table 1: Model results for simulated data with $n = 1000$, $k = 4$, $p = 2$, $h = 3$, $r = 2$. 1000 iterations were run with a burn in of 250. 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_{11}	0.03	-4.11 (-4.33, -3.86)	2.94	9.42 (8.91, 9.77)	8.98	-8.37 (-8.86, -0.65)
	β_{21}	0.15	-3.98 (-4.09, -3.87)	3.05	11.98 (11.77, 12.18)	9.52	-10.85 (-11.1, 0.61)
	β_{31}	2.34	-3.74 (-3.99, -3.5)	2.66	11.39 (10.7, 11.78)	10.88	-10.29 (-10.78, -0.14)
	β_{41}	0.18	-1.97 (-2.08, -1.84)	3.78	14.02 (13.78, 14.22)	7.88	-12.89 (-13.13, 0.59)
	β_{12}	0.05	5.83 (5.59, 6.07)	4.24	0.42 (0.03, 0.83)	8.21	-0.35 (-0.77, 0.16)
	β_{22}	1.37	4.96 (4.84, 5.07)	3.06	2.02 (1.86, 2.22)	9.66	-1.89 (-2.11, 0.02)
	β_{32}	1.83	4.23 (3.96, 4.5)	3.53	0.49 (0.14, 0.86)	9.36	-0.37 (-0.77, 0.16)
	β_{42}	2.97	4.96 (4.83, 5.08)	5.17	2.08 (1.92, 2.28)	7.49	-1.84 (-2.04, 0.04)
	Ω_{11}	12.24	1.38 (1.2, 1.59)	71.81	3.08 (2.69, 4.16)	586.47	3.49 (2.89, 186.69)
	Ω_{12}	4.13	0.2 (0.05, 0.36)	60.19	2.76 (2.39, 3.55)	573.81	3.02 (2.48, 215.36)
	Ω_{13}	5.88	0.38 (0.24, 0.54)	64.04	1.9 (1.58, 2.46)	573.51	1.86 (1.42, 8.74)
	Ω_{14}	4.81	-0.41 (-0.58, -0.26)	60.87	1.78 (1.46, 2.24)	584.33	1.72 (1.29, 12.25)
	Ω_{22}	13.21	1.43 (1.22, 1.67)	76.86	3.43 (3.01, 4.23)	581.74	3.71 (3.09, 253.61)
	Ω_{23}	13.96	0.05 (-0.1, 0.2)	73.85	2.13 (1.78, 2.7)	577.64	2.02 (1.55, 13.33)
	Ω_{24}	4.01	0.64 (0.48, 0.83)	70.17	1.86 (1.53, 2.39)	575.89	1.78 (1.35, 16.8)
	Ω_{33}	17.12	1.41 (1.22, 1.64)	73.47	2.55 (2.23, 3.2)	577.77	2.44 (1.99, 5.81)
	Ω_{34}	7.08	0.14 (-0.01, 0.3)	67.84	1.99 (1.69, 2.68)	576.34	1.94 (1.55, 5.3)
	Ω_{44}	8.79	1.57 (1.37, 1.83)	76.35	2.45 (2.14, 3.79)	589.19	2.37 (1.93, 5.68)
	α_1	-1.26	0 (0, 0)	4.89	0 (0, 0)	-21.89	0 (0, 0)
	α_2	-8.28	0 (0, 0)	6.62	0 (0, 0)	1.75	0 (0, 0)
	α_3	8.55	0 (0, 0)	-5.87	0 (0, 0)	-41.61	0 (0, 0)
	α_4	-4.05	0 (0, 0)	0.77	0 (0, 0)	14.01	0 (0, 0)
Multinom.	δ_{11}	-0.66	-0.54 (-0.77, -0.32)	-0.66	-0.54 (-0.77, -0.32)	-0.66	-0.54 (-0.77, -0.32)
	δ_{12}	-0.26	-0.26 (-0.6, 0.05)	-0.26	-0.26 (-0.6, 0.05)	-0.26	-0.26 (-0.6, 0.05)
	δ_{21}	-0.07	-0.07 (-0.28, 0.14)	-0.07	-0.07 (-0.28, 0.14)	-0.07	-0.07 (-0.28, 0.14)
	δ_{22}	0.26	0.24 (-0.04, 0.5)	0.26	0.24 (-0.04, 0.5)	0.26	0.24 (-0.04, 0.5)
Clustering	π_l	0.39	0.39 (0.36, 0.43)	0.2	0.38 (0.13, 0.41)	0.41	0.23 (0.2, 0.44)