Simulation Tables

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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 100. Missingness mechanism was MAR and P(miss) = 0. Model results for the multivariate skew normal (MSN) and multivariate normal (MN) mixtures are presented.

		Class 1			Class 2			Class 3		
Component	Param.	True	MSN Est. (95% CrI)	MN Est. (95% CrI)	True	MSN Est. (95% CrI)	MN Est. (95% CrI)	True	MSN Est. (95% CrI)	MN Est. (95% CrI)
MVSN Regression	β_{11}	10	10.23 (9.9, 10.52)	-3.44 (-3.76, -3.11)	0	-0.42 (-0.74, 0.03)	0.82 (0.45, 1.19)	-10	-10.09 (-10.32, -9.81)	1.3 (1.06, 1.54)
	β_{21}	10	10.13 (9.93, 10.32)	-1.96 (-2.13, -1.8)	0	0.09 (-0.01, 0.2)	-0.27 (-0.43, -0.08)	-10	-9.96 (-10.09, -9.84)	3.28 (3.16, 3.4)
	β_{31}	10	10.23 (9.83, 10.68)	-3.41 (-3.74, -3.08)	0	0.25 (-0.43, 0.62)	0.62 (0.23, 0.94)	-10	-10.08 (-10.35, -9.75)	1.82 (1.61, 2.07)
	β_{41}	10	10.02 (9.82, 10.22)	-3.25 (-3.42, -3.09)	0	0.07 (-0.04, 0.17)	-0.6 (-0.76, -0.42)	-10	-9.98 (-10.12, -9.85)	2.55 (2.45, 2.67)
	β_{12}	2	2.08 (1.67, 2.41)	-3.44 (-3.71, -3.18)	0	0.5 (-0.41, 0.81)	0.4 (0.04, 0.72)	-2	-1.94 (-2.26, -1.6)	1.54 (1.31, 1.77)
	β_{22}	2	2.2 (2.02, 2.4)	-2.62 (-2.76, -2.5)	0	0.06 (-0.03, 0.17)	-0.34 (-0.51, -0.18)	-2	-1.98 (-2.12, -1.83)	2.08 (1.96, 2.18)
	β_{32}	2	2.07 (1.73, 2.36)	-3.29 (-3.59, -2.97)	0	0.7 (-0.08, 0.98)	0.26 (-0.1, 0.62)	-2	-2.1 (-2.33, -1.81)	0.72 (0.51, 0.94)
	β_{42}	2	2.1 (1.92, 2.28)	-2.65 (-2.8, -2.49)	0	0.05 (-0.06, 0.15)	0.16 (-0.01, 0.32)	-2	-1.93 (-2.06, -1.81)	3.35 (3.24, 3.46)
	Ω_{11}	5	6.03 (4.65, 7.74)	1.48 (1.21, 1.83)	1	1.13 (0.92, 1.52)	1.25 (0.95, 1.68)	5	5.48 (4.39, 6.64)	1.74 (1.53, 1.99)
	Ω_{12}	4.5	5.44 (4.03, 7.22)	0.9 (0.69, 1.22)	0.5	0.49 (0.31, 0.73)	0.61 (0.4, 0.95)	4.5	4.96 (3.91, 6)	1.28 (1.08, 1.5)
	Ω_{13}	4.25	4.79 (3.58, 6.1)	0.48 (0.3, 0.71)	0.25	0.08 (-0.14, 0.33)	0.3 (0.1, 0.56)	4.25	4.25 (3.36, 5.27)	0.93 (0.75, 1.15)
	Ω_{14}	4.12	4.51 (3.53, 5.69)	0.46 (0.28, 0.69)	0.12	-0.12 (-0.4, 0.16)	0.1 (-0.1, 0.34)	4.12	4.41 (3.5, 5.39)	0.78 (0.61, 0.97)
	Ω_{22}	5	5.74 (4.22, 7.79)	1.42 (1.16, 1.74)	1	1.03 (0.85, 1.36)	1.08 (0.81, 1.42)	5	5.44 (4.33, 6.67)	1.71 (1.47, 1.95)
	Ω_{23}	4.5	4.87 (3.55, 6.37)	0.77 (0.57, 1.01)	0.5	0.49 (0.28, 0.77)	0.66 (0.44, 0.94)	4.5	4.58 (3.62, 5.7)	1.18 (0.98, 1.38)
	Ω_{24}	4.25	4.52 (3.43, 5.76)	0.63 (0.44, 0.88)	0.25	0.36 (0.06, 0.67)	0.27 (0.06, 0.5)	4.25	4.58 (3.64, 5.69)	0.94 (0.76, 1.16)
	Ω_{33}	5	5.23 (3.89, 6.67)	1.12 (0.91, 1.37)	1	1.15 (0.91, 1.56)	0.97 (0.75, 1.3)	5	4.8 (3.79, 6.02)	1.67 (1.47, 1.9)
	Ω_{34}	4.5	4.58 (3.46, 5.91)	0.71 (0.54, 0.95)	0.5	0.81 (0.48, 1.22)	0.51 (0.33, 0.77)	4.5	4.49 (3.52, 5.65)	1.17 (1, 1.38)
	Ω_{44}	5	4.96 (3.87, 6.4)	1.28 (1.07, 1.56)	1	1.43 (0.98, 1.93)	1.05 (0.81, 1.4)	5	5.3 (4.22, 6.45)	1.65 (1.44, 1.89)
	α_1	-0.99	-1.61 (-3.53, 0.45)	0 (0, 0)	0	0.98 (-0.26, 1.77)	0 (0, 0)	0.99	1.43 (0.56, 2.47)	0 (0, 0)
	α_2	-0.5	-0.44 (-4.18, 1.54)	0 (0, 0)	0	-0.57 (-1.46, 0.67)	0 (0, 0)	0.5	1.02 (-0.54, 2.26)	0 (0, 0)
	α_3	-0.5	-0.1 (-1.82, 1.08)	0 (0, 0)	0	-0.1 (-0.83, 1)	0 (0, 0)	0.5	-0.96 (-2.12, 0.43)	0 (0, 0)
	α_4	-0.99	-1.96 (-3.48, -0.56)	0 (0, 0)	0	-0.98 (-1.72, -0.01)	0 (0, 0)	0.99	1.92 (0.89, 2.96)	0 (0, 0)
Multinom.	δ_{11}	0.52	0.3 (0.09, 0.51)	0.45 (0.22, 0.68)	0.52	0.3 (0.09, 0.51)	0.45 (0.22, 0.68)	0.52	0.3 (0.09, 0.51)	0.45 (0.22, 0.68)
	δ_{12}	-0.02	0.18 (-0.15, 0.52)	0.4 (0.04, 0.73)	-0.02	0.18 (-0.15, 0.52)	0.4 (0.04, 0.73)	-0.02	0.18 (-0.15, 0.52)	0.4 (0.04, 0.73)
	δ_{21}	0.44	0.24 (0.03, 0.47)	0.6 (0.38, 0.83)	0.44	0.24 (0.03, 0.47)	0.6 (0.38, 0.83)	0.44	0.24 (0.03, 0.47)	0.6 (0.38, 0.83)
	δ_{22}	0.58	0.79 (0.49, 1.09)	0.42 (0.12, 0.77)	0.58	0.79 (0.49, 1.09)	0.42 (0.12, 0.77)	0.58	0.79 (0.49, 1.09)	0.42 (0.12, 0.77)
Clustering	π_l	0.23	0.23 (0.22, 0.24)	0.26 (0.23, 0.29)	0.34	0.34 (0.33, 0.36)	0.18 (0.15, 0.21)	0.43	0.43 (0.42, 0.44)	0.56 (0.53, 0.6)