Simulation Tables

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Table 1: Model results for simulated data with n = 1,000, J = 4, p = 2, K = 3, r = 2. 1,000 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)	MVN Est. (95% CrI)	True	MSN Est. (95% CrI)	MVN Est. (95% CrI)	True	MSN Est. (95% CrI)	MVN Est. (95% CrI)
MVSN Regression	β_{11}	100	99.74 (99.08, 100.35)	89.32 (88.8, 89.86)	90	90.19 (89.51, 90.95)	100.8 (100.25, 101.4)	100	100.41 (98.65, 101.54)	100.09 (99.69, 100.51)
	β_{21}	-1	-1.22 (-1.43, -1)	0.63 (0.38, 0.88)	1	0.96 (0.69, 1.23)	-0.87 (-1.18, -0.58)	1	1.19 (0.92, 1.44)	0.81 (0.6, 1.04)
	β_{31}	105	104.35 (103.76, 104.94)	83.31 (82.73, 83.89)	85	85.33 (84.14, 86.23)	106.73 (106.12, 107.35)	100	100.08 (98.92, 102.15)	100.7 (100.19, 101.2)
	β_{41}	-1.5	-1.52 (-1.77, -1.28)	1.29 (0.99, 1.58)	1.5	1.42 (1.12, 1.7)	-1.56 (-1.88, -1.26)	1	1.14 (0.85, 1.41)	0.68 (0.43, 0.94)
	β_{12}	110	109.57 (108.97, 110.4)	77.59 (76.94, 78.26)	80	79.94 (78.85, 80.83)	112.36 (111.73, 113.05)	100	99.72 (98.51, 101.3)	99.98 (99.49, 100.5)
	β_{22}	-2	-2.03 (-2.3, -1.77)	2.02 (1.66, 2.35)	2	1.91 (1.58, 2.24)	-2.05 (-2.41, -1.7)	1	1.02 (0.75, 1.3)	0.65 (0.39, 0.89)
	β_{32}	115	114.55 (113.98, 115.36)	71.91 (71.22, 72.58)	75	75.29 (74.37, 76.07)	117.92 (117.09, 118.72)	100	100.44 (99.27, 102.41)	100.78 (100.33, 101.27)
	β_{42}	-2.5	-2.5 (-2.81, -2.21)	2.39 (2.03, 2.73)	2.5	2.48 (2.14, 2.82)	-2.55 (-2.93, -2.14)	1	0.97 (0.71, 1.27)	0.71 (0.47, 0.95)
	Ω_{11}	6	6.16 (5.05, 8.11)	5.46 (4.79, 6.32)	6	6.13 (4.92, 8.16)	5.6 (4.82, 6.59)	5	5.53 (4.44, 8.1)	4.05 (3.51, 4.68)
	Ω_{12}	4.5	5.47 (3.84, 7.5)	3.67 (2.97, 4.51)	4.5	4.64 (3.17, 6.93)	2.9 (2.2, 3.72)	2.5	2.37 (0.95, 3.94)	1.95 (1.48, 2.51)
	Ω_{13}	4.25	4.89 (3.01, 6.98)	2.87 (2.19, 3.62)	4.25	4.51 (2.69, 7.01)	2.58 (1.79, 3.48)	1.25	0.94 (-0.23, 2.13)	0.72 (0.25, 1.21)
	Ω_{14}	4.62	5.74 (3.31, 8.2)	2.06 (1.31, 2.89)	4.62	4.95 (2.32, 8.02)	2.62 (1.68, 3.68)	0.62	0.14 (-1.44, 1.42)	0.13 (-0.31, 0.6)
	Ω_{22}	9	11.99 (9.37, 15.55)	6.94 (5.98, 8.05)	9	9.26 (6.21, 13.76)	6.52 (5.62, 7.7)	6	6.11 (4.99, 9.06)	5.39 (4.66, 6.19)
	Ω_{23}	8.5	11.15 (8.33, 14.56)	5.5 (4.65, 6.54)	8.5	8.42 (5.13, 12.65)	4.83 (3.88, 5.96)	2.5	2.87 (1.91, 4.69)	2.51 (1.97, 3.15)
	Ω_{24}	9.25	12.17 (8.79, 15.72)	3.96 (3.06, 4.94)	9.25	10.14 (5.17, 14.92)	4.57 (3.43, 5.85)	2.25	1.37 (0.14, 3.28)	1.59 (1.08, 2.16)
	Ω_{33}	14	15.93 (11.81, 20.6)	8.72 (7.57, 9.95)	14	13.74 (9.55, 18.9)	8.21 (7.01, 9.87)	5	5.39 (4.42, 7.78)	5.14 (4.41, 5.91)
	Ω_{34}	14.5	16.51 (12, 21.16)	6.25 (5.2, 7.52)	14.5	14.66 (9.18, 19.94)	7.17 (5.88, 8.81)	2.5	2.4 (1.57, 4.73)	2.49 (1.93, 3.14)
	Ω_{44}	21	22.71 (17.07, 28.43)	9.78 (8.46, 11.47)	21	22.74 (16.1, 30.11)	11.22 (9.46, 13.38)	6	5.54 (4.52, 8.49)	4.7 (4.08, 5.43)
	α_1	0	-0.15 (-0.58, 0.64)	0 (0, 0)	0	0.04 (-0.82, 0.76)	0 (0, 0)	-0.24	-0.54 (-1.76, 0.88)	0 (0, 0)
	α_2	0.19	0.94 (0.17, 1.88)	0 (0, 0)	-0.19	-0.57 (-2.21, 0.69)	0 (0, 0)	0.65	0.54 (-1.4, 1.73)	0 (0, 0)
	α_3	0.35	0.04 (-0.63, 0.98)	0 (0, 0)	-0.35	0.36 (-0.5, 1.1)	0 (0, 0)	-0.47	-0.11 (-0.97, 0.82)	0 (0, 0)
	α_4	1.43	1.92 (0.9, 2.95)	0 (0, 0)	-1.43	-2.45 (-3.98, -1.22)	0 (0, 0)	0.52	0.07 (-1.08, 0.76)	0 (0, 0)
Multinom.	δ_{11}	-0.69	-0.67 (-0.88, -0.45)	0.3 (0.1, 0.5)	-0.69	-0.67 (-0.88, -0.45)	0.3 (0.1, 0.5)	-0.69	-0.67 (-0.88, -0.45)	0.3 (0.1, 0.5)
	δ_{12}	0.46	0.59 (0.28, 0.87)	-0.26 (-0.55, 0.03)	0.46	0.59 (0.28, 0.87)	-0.26 (-0.55, 0.03)	0.46	0.59 (0.28, 0.87)	-0.26 (-0.55, 0.03)
	δ_{21}	-0.37	-0.25 (-0.46, -0.05)	0.2 (-0.02, 0.41)	-0.37	-0.25 (-0.46, -0.05)	0.2 (-0.02, 0.41)	-0.37	-0.25 (-0.46, -0.05)	0.2 (-0.02, 0.41)
	δ_{22}	-0.16	-0.21 (-0.51, 0.09)	0.07 (-0.21, 0.35)	-0.16	-0.21 (-0.51, 0.09)	0.07 (-0.21, 0.35)	-0.16	-0.21 (-0.51, 0.09)	0.07 (-0.21, 0.35)
Clustering	π_l	0.42	0.42 (0.42, 0.42)	0.34 (0.34, 0.34)	0.29	0.29 (0.29, 0.29)	0.29 (0.29, 0.3)	0.29	0.29 (0.29, 0.29)	0.36 (0.36, 0.36)