

OpenMx status is 6

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```
library(metaSEM)

## Loading required package: OpenMx

## To take full advantage of multiple cores, use:
##   mxOption(key='Number of Threads', value=parallel::detectCores()) #now
##   Sys.setenv(OMP_NUM_THREADS=parallel::detectCores()) #before library(OpenMx)

## "SLSQP" is set as the default optimizer in OpenMx.

## mxOption(NULL, "Gradient algorithm") is set at "central".

## mxOption(NULL, "Optimality tolerance") is set at "6.3e-14".

## mxOption(NULL, "Gradient iterations") is set at "2".

## Missing data are represented by "0", not "NA"
myfile <- readLowTriMat(file = "Matrices.txt", no.var=11, na.strings="0")

n <- scan("Sample_Sizes.txt")

is.pd(myfile)

##   1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 109 110 111
## NA NA NA

pattern.na(myfile, show.na=FALSE)

##      x1  x2  x3  x4  x5  x6  x7  x8  x9 x10 x11
## x1 111  9  7  14  3  16  5  3  6  3  3
## x2  9 111  4  9  5  12  6  4  10  9  4
## x3  7  4 111 21  3  6  9  5  7  13  7
## x4 14  9 21 111 5  14 13  9 11 24  6
## x5  3  5  3  5 111  6  9  3 11  6 10
## x6 16 12  6 14  6 111  4  4  8  4  5
## x7  5  6  9 13  9  4 111  9  6 22 16
## x8  3  4  5  9  3  4  9 111  3 13  3
## x9  6 10  7 11 11  8  6  3 111  7 10
## x10 3  9 13 24  6  4 22 13  7 111  7
```

```
## x11 3 4 7 6 10 5 16 3 10 7 111
```

```
random1 <- tssem1(myfile, n, method="REM", RE.type="Diag")  
summary(random1)
```

```
##
```

```
## Call:
```

```
## meta(y = ES, v = acovR, RE.constraints = Diag(paste0(RE.startvalues,  
##      "*Tau2_", 1:no.es, "_", 1:no.es)), RE.lbound = RE.lbound,  
##      I2 = I2, model.name = model.name, suppressWarnings = TRUE,  
##      silent = silent, run = run)
```

```
##
```

```
## 95% confidence intervals: z statistic approximation
```

```
## Coefficients:
```

##	Estimate	Std.Error	lbound	ubound	z value
## Intercept1	-2.6731e-02	4.3067e-02	-1.1114e-01	5.7678e-02	-0.6207
## Intercept2	-3.8300e-03	1.1690e-01	-2.3294e-01	2.2528e-01	-0.0328
## Intercept3	-3.3664e-02	6.3690e-02	-1.5850e-01	9.1167e-02	-0.5286
## Intercept4	3.3596e-01	9.6838e-02	1.4616e-01	5.2576e-01	3.4693
## Intercept5	1.8695e-01	5.9593e-02	7.0145e-02	3.0375e-01	3.1370
## Intercept6	-3.8047e-03	7.7699e-02	-1.5609e-01	1.4848e-01	-0.0490
## Intercept7	7.8080e-02	1.0841e-01	-1.3439e-01	2.9055e-01	0.7202
## Intercept8	3.6400e-01	4.0330e-02	2.8495e-01	4.4304e-01	9.0255
## Intercept9	7.2224e-02	1.4049e-01	-2.0313e-01	3.4757e-01	0.5141
## Intercept10	2.2229e-01	1.4517e-01	-6.2234e-02	5.0681e-01	1.5313
## Intercept11	-2.2200e-01	1.1345e-01	-4.4435e-01	3.5305e-04	-1.9569
## Intercept12	-3.0531e-02	1.0168e-01	-2.2983e-01	1.6876e-01	-0.3003
## Intercept13	-2.9669e-02	6.6036e-02	-1.5910e-01	9.9759e-02	-0.4493
## Intercept14	-1.2915e-01	8.7920e-02	-3.0147e-01	4.3169e-02	-1.4690
## Intercept15	-3.9706e-01	1.0933e-01	-6.1135e-01	-1.8277e-01	-3.6316
## Intercept16	-2.5569e-01	5.5719e-02	-3.6490e-01	-1.4648e-01	-4.5889
## Intercept17	-1.3695e-01	8.9700e-02	-3.1276e-01	3.8855e-02	-1.5268
## Intercept18	-3.6533e-01	8.9494e-02	-5.4074e-01	-1.8993e-01	-4.0822
## Intercept19	-2.0037e-01	7.8708e-02	-3.5463e-01	-4.6104e-02	-2.5457
## Intercept20	5.7422e-01	4.4914e-02	4.8619e-01	6.6225e-01	12.7848
## Intercept21	2.9089e-01	4.7478e-02	1.9784e-01	3.8395e-01	6.1269
## Intercept22	4.7791e-01	8.5443e-02	3.1044e-01	6.4537e-01	5.5933
## Intercept23	3.1799e-01	1.2768e-01	6.7741e-02	5.6824e-01	2.4905
## Intercept24	5.7808e-01	5.4942e-02	4.7040e-01	6.8577e-01	10.5217
## Intercept25	4.0351e-01	4.9317e-02	3.0685e-01	5.0017e-01	8.1820
## Intercept26	3.8548e-01	4.7844e-02	2.9171e-01	4.7925e-01	8.0570
## Intercept27	3.1625e-01	6.1383e-02	1.9594e-01	4.3656e-01	5.1521
## Intercept28	5.7817e-01	1.0678e-01	3.6888e-01	7.8746e-01	5.4145
## Intercept29	3.7800e-01	7.2927e-02	2.3507e-01	5.2093e-01	5.1833
## Intercept30	5.1796e-01	7.0640e-02	3.7951e-01	6.5641e-01	7.3324
## Intercept31	6.6537e-01	4.7857e-02	5.7157e-01	7.5916e-01	13.9033
## Intercept32	6.0370e-01	6.1970e-02	4.8224e-01	7.2516e-01	9.7418
## Intercept33	6.6353e-01	3.2594e-02	5.9965e-01	7.2742e-01	20.3573
## Intercept34	4.0602e-01	6.3339e-02	2.8187e-01	5.3016e-01	6.4102
## Intercept35	2.7980e-01	1.0309e-01	7.7744e-02	4.8186e-01	2.7141
## Intercept36	5.4016e-01	1.0075e-01	3.4270e-01	7.3762e-01	5.3615
## Intercept37	6.7067e-01	1.0798e-01	4.5903e-01	8.8231e-01	6.2109
## Intercept38	7.1669e-01	4.2071e-02	6.3423e-01	7.9915e-01	17.0353
## Intercept39	6.2516e-01	8.3003e-02	4.6247e-01	7.8784e-01	7.5317
## Intercept40	6.5626e-01	6.8850e-02	5.2131e-01	7.9120e-01	9.5317

## Intercept41	5.4300e-01	1.0952e-01	3.2834e-01	7.5765e-01	4.9580
## Intercept42	5.7182e-01	6.9318e-02	4.3596e-01	7.0768e-01	8.2492
## Intercept43	5.5467e-01	5.2200e-02	4.5236e-01	6.5698e-01	10.6258
## Intercept44	5.6444e-01	9.1638e-02	3.8483e-01	7.4405e-01	6.1595
## Intercept45	5.2202e-01	7.6029e-02	3.7300e-01	6.7103e-01	6.8660
## Intercept46	5.5284e-01	5.6518e-02	4.4207e-01	6.6361e-01	9.7818
## Intercept47	5.8037e-01	1.3283e-01	3.2003e-01	8.4072e-01	4.3692
## Intercept48	6.2770e-01	3.9402e-02	5.5048e-01	7.0493e-01	15.9306
## Intercept49	5.6390e-01	6.1569e-02	4.4323e-01	6.8458e-01	9.1588
## Intercept50	4.8060e-01	8.0646e-02	3.2253e-01	6.3866e-01	5.9593
## Intercept51	6.1327e-01	3.9976e-02	5.3492e-01	6.9162e-01	15.3411
## Intercept52	5.7402e-01	1.0052e-01	3.7702e-01	7.7103e-01	5.7108
## Intercept53	5.2098e-01	6.2265e-02	3.9894e-01	6.4302e-01	8.3671
## Intercept54	5.5746e-01	6.5444e-02	4.2919e-01	6.8573e-01	8.5181
## Intercept55	5.0543e-01	6.6076e-02	3.7592e-01	6.3494e-01	7.6492
## Tau2_1_1	8.4969e-03	7.7965e-03	-6.7839e-03	2.3778e-02	1.0898
## Tau2_2_2	8.5988e-02	5.2687e-02	-1.7277e-02	1.8925e-01	1.6320
## Tau2_3_3	4.8040e-02	2.1543e-02	5.8167e-03	9.0264e-02	2.2300
## Tau2_4_4	2.2115e-02	2.3387e-02	-2.3722e-02	6.7953e-02	0.9456
## Tau2_5_5	4.7187e-02	2.1679e-02	4.6965e-03	8.9678e-02	2.1766
## Tau2_6_6	2.4640e-02	1.9421e-02	-1.3423e-02	6.2704e-02	1.2688
## Tau2_7_7	3.0442e-02	2.8639e-02	-2.5690e-02	8.6574e-02	1.0629
## Tau2_8_8	3.7625e-03	5.1238e-03	-6.2799e-03	1.3805e-02	0.7343
## Tau2_9_9	5.4958e-02	4.8859e-02	-4.0804e-02	1.5072e-01	1.1248
## Tau2_10_10	5.7643e-02	5.1313e-02	-4.2929e-02	1.5822e-01	1.1234
## Tau2_11_11	4.4301e-02	3.7101e-02	-2.8416e-02	1.1702e-01	1.1941
## Tau2_12_12	8.7151e-02	4.3873e-02	1.1609e-03	1.7314e-01	1.9864
## Tau2_13_13	1.5784e-02	1.3973e-02	-1.1602e-02	4.3170e-02	1.1296
## Tau2_14_14	8.4640e-02	3.7979e-02	1.0203e-02	1.5908e-01	2.2286
## Tau2_15_15	6.6187e-02	4.2410e-02	-1.6936e-02	1.4931e-01	1.5606
## Tau2_16_16	9.2799e-03	8.5709e-03	-7.5188e-03	2.6079e-02	1.0827
## Tau2_17_17	7.3243e-02	3.6151e-02	2.3890e-03	1.4410e-01	2.0260
## Tau2_18_18	6.6380e-02	3.3598e-02	5.2862e-04	1.3223e-01	1.9757
## Tau2_19_19	1.9156e-02	1.9843e-02	-1.9735e-02	5.8048e-02	0.9654
## Tau2_20_20	3.3892e-02	1.2422e-02	9.5461e-03	5.8237e-02	2.7285
## Tau2_21_21	1.0022e-10	9.6312e-03	-1.8877e-02	1.8877e-02	0.0000
## Tau2_22_22	3.2961e-02	2.5560e-02	-1.7136e-02	8.3057e-02	1.2895
## Tau2_23_23	1.3974e-01	6.8073e-02	6.3160e-03	2.7316e-01	2.0527
## Tau2_24_24	1.0231e-02	9.2334e-03	-7.8663e-03	2.8328e-02	1.1080
## Tau2_25_25	1.1468e-02	9.0605e-03	-6.2903e-03	2.9226e-02	1.2657
## Tau2_26_26	2.2433e-02	1.1579e-02	-2.6111e-04	4.5128e-02	1.9374
## Tau2_27_27	2.0373e-02	1.3191e-02	-5.4804e-03	4.6226e-02	1.5445
## Tau2_28_28	5.1622e-02	3.6007e-02	-1.8950e-02	1.2219e-01	1.4337
## Tau2_29_29	6.4778e-02	2.7996e-02	9.9061e-03	1.1965e-01	2.3138
## Tau2_30_30	5.9160e-02	2.4572e-02	1.1001e-02	1.0732e-01	2.4077
## Tau2_31_31	1.6655e-02	9.6768e-03	-2.3109e-03	3.5621e-02	1.7212
## Tau2_32_32	3.4926e-02	1.7493e-02	6.4107e-04	6.9211e-02	1.9966
## Tau2_33_33	2.0800e-02	7.2330e-03	6.6236e-03	3.4976e-02	2.8757
## Tau2_34_34	1.8869e-02	1.3595e-02	-7.7777e-03	4.5515e-02	1.3879
## Tau2_35_35	5.8946e-02	3.7216e-02	-1.3996e-02	1.3189e-01	1.5839
## Tau2_36_36	8.4871e-02	4.3209e-02	1.8319e-04	1.6956e-01	1.9642
## Tau2_37_37	2.7708e-02	2.8681e-02	-2.8506e-02	8.3923e-02	0.9661
## Tau2_38_38	1.4263e-02	7.8450e-03	-1.1131e-03	2.9639e-02	1.8181
## Tau2_39_39	3.7089e-02	2.3359e-02	-8.6940e-03	8.2871e-02	1.5878

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## Tau2_40_40 4.0893e-02 2.1253e-02 -7.6138e-04 8.2548e-02 1.9241
## Tau2_41_41 4.3034e-02 3.3770e-02 -2.3154e-02 1.0922e-01 1.2743
## Tau2_42_42 1.4621e-02 1.4210e-02 -1.3230e-02 4.2472e-02 1.0289
## Tau2_43_43 1.5223e-02 1.0291e-02 -4.9461e-03 3.5392e-02 1.4793
## Tau2_44_44 2.9740e-02 2.3814e-02 -1.6934e-02 7.6414e-02 1.2489
## Tau2_45_45 2.4438e-02 1.8696e-02 -1.2205e-02 6.1081e-02 1.3072
## Tau2_46_46 2.4150e-02 1.4241e-02 -3.7626e-03 5.2063e-02 1.6958
## Tau2_47_47 1.0021e-01 6.0923e-02 -1.9198e-02 2.1961e-01 1.6448
## Tau2_48_48 2.7273e-02 9.7466e-03 8.1705e-03 4.6376e-02 2.7983
## Tau2_49_49 5.4914e-02 2.1275e-02 1.3216e-02 9.6613e-02 2.5812
## Tau2_50_50 1.2672e-02 1.6327e-02 -1.9329e-02 4.4673e-02 0.7761
## Tau2_51_51 1.6371e-02 8.1649e-03 3.6779e-04 3.2374e-02 2.0050
## Tau2_52_52 2.6884e-02 2.4858e-02 -2.1835e-02 7.5604e-02 1.0815
## Tau2_53_53 2.0822e-02 1.3805e-02 -6.2354e-03 4.7878e-02 1.5083
## Tau2_54_54 3.5479e-02 1.8626e-02 -1.0276e-03 7.1985e-02 1.9048
## Tau2_55_55 2.4763e-02 1.5659e-02 -5.9280e-03 5.5453e-02 1.5814
## Pr(>|z|)
## Intercept1 0.5348023
## Intercept2 0.9738631
## Intercept3 0.5971117
## Intercept4 0.0005219 ***
## Intercept5 0.0017067 **
## Intercept6 0.9609458
## Intercept7 0.4713744
## Intercept8 < 2.2e-16 ***
## Intercept9 0.6071884
## Intercept10 0.1257061
## Intercept11 0.0503649 .
## Intercept12 0.7639849
## Intercept13 0.6532277
## Intercept14 0.1418433
## Intercept15 0.0002817 ***
## Intercept16 4.455e-06 ***
## Intercept17 0.1268117
## Intercept18 4.461e-05 ***
## Intercept19 0.0109051 *
## Intercept20 < 2.2e-16 ***
## Intercept21 8.963e-10 ***
## Intercept22 2.228e-08 ***
## Intercept23 0.0127559 *
## Intercept24 < 2.2e-16 ***
## Intercept25 2.220e-16 ***
## Intercept26 8.882e-16 ***
## Intercept27 2.576e-07 ***
## Intercept28 6.146e-08 ***
## Intercept29 2.180e-07 ***
## Intercept30 2.260e-13 ***
## Intercept31 < 2.2e-16 ***
## Intercept32 < 2.2e-16 ***
## Intercept33 < 2.2e-16 ***
## Intercept34 1.453e-10 ***
## Intercept35 0.0066460 **
## Intercept36 8.255e-08 ***
## Intercept37 5.268e-10 ***

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## Intercept38 < 2.2e-16 ***
## Intercept39 5.018e-14 ***
## Intercept40 < 2.2e-16 ***
## Intercept41 7.122e-07 ***
## Intercept42 2.220e-16 ***
## Intercept43 < 2.2e-16 ***
## Intercept44 7.300e-10 ***
## Intercept45 6.601e-12 ***
## Intercept46 < 2.2e-16 ***
## Intercept47 1.247e-05 ***
## Intercept48 < 2.2e-16 ***
## Intercept49 < 2.2e-16 ***
## Intercept50 2.533e-09 ***
## Intercept51 < 2.2e-16 ***
## Intercept52 1.124e-08 ***
## Intercept53 < 2.2e-16 ***
## Intercept54 < 2.2e-16 ***
## Intercept55 2.021e-14 ***
## Tau2_1_1 0.2757834
## Tau2_2_2 0.1026694
## Tau2_3_3 0.0257496 *
## Tau2_4_4 0.3443314
## Tau2_5_5 0.0295105 *
## Tau2_6_6 0.2045241
## Tau2_7_7 0.2878113
## Tau2_8_8 0.4627521
## Tau2_9_9 0.2606607
## Tau2_10_10 0.2612845
## Tau2_11_11 0.2324534
## Tau2_12_12 0.0469862 *
## Tau2_13_13 0.2586402
## Tau2_14_14 0.0258403 *
## Tau2_15_15 0.1186100
## Tau2_16_16 0.2789329
## Tau2_17_17 0.0427598 *
## Tau2_18_18 0.0481890 *
## Tau2_19_19 0.3343480
## Tau2_20_20 0.0063628 **
## Tau2_21_21 1.0000000
## Tau2_22_22 0.1972097
## Tau2_23_23 0.0400972 *
## Tau2_24_24 0.2678548
## Tau2_25_25 0.2056181
## Tau2_26_26 0.0526948 .
## Tau2_27_27 0.1224696
## Tau2_28_28 0.1516666
## Tau2_29_29 0.0206785 *
## Tau2_30_30 0.0160547 *
## Tau2_31_31 0.0852219 .
## Tau2_32_32 0.0458674 *
## Tau2_33_33 0.0040312 **
## Tau2_34_34 0.1651741
## Tau2_35_35 0.1132179
## Tau2_36_36 0.0495065 *

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## Tau2_37_37 0.3340096
## Tau2_38_38 0.0690521 .
## Tau2_39_39 0.1123385
## Tau2_40_40 0.0543372 .
## Tau2_41_41 0.2025461
## Tau2_42_42 0.3035119
## Tau2_43_43 0.1390542
## Tau2_44_44 0.2117179
## Tau2_45_45 0.1911601
## Tau2_46_46 0.0899310 .
## Tau2_47_47 0.1000024
## Tau2_48_48 0.0051379 **
## Tau2_49_49 0.0098465 **
## Tau2_50_50 0.4376646
## Tau2_51_51 0.0449620 *
## Tau2_52_52 0.2794560
## Tau2_53_53 0.1314823
## Tau2_54_54 0.0568067 .
## Tau2_55_55 0.1137879
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Q statistic on the homogeneity of effect sizes: 3972.311
## Degrees of freedom of the Q statistic: 396
## P value of the Q statistic: 0
##
## Heterogeneity indices (based on the estimated Tau2):
##
##              Estimate
## Intercept1: I2 (Q statistic) 0.6352
## Intercept2: I2 (Q statistic) 0.9463
## Intercept3: I2 (Q statistic) 0.9078
## Intercept4: I2 (Q statistic) 0.8193
## Intercept5: I2 (Q statistic) 0.9064
## Intercept6: I2 (Q statistic) 0.8347
## Intercept7: I2 (Q statistic) 0.8619
## Intercept8: I2 (Q statistic) 0.4355
## Intercept9: I2 (Q statistic) 0.9185
## Intercept10: I2 (Q statistic) 0.9220
## Intercept11: I2 (Q statistic) 0.9008
## Intercept12: I2 (Q statistic) 0.9470
## Intercept13: I2 (Q statistic) 0.7639
## Intercept14: I2 (Q statistic) 0.9455
## Intercept15: I2 (Q statistic) 0.9314
## Intercept16: I2 (Q statistic) 0.6555
## Intercept17: I2 (Q statistic) 0.9375
## Intercept18: I2 (Q statistic) 0.9316
## Intercept19: I2 (Q statistic) 0.7970
## Intercept20: I2 (Q statistic) 0.8759
## Intercept21: I2 (Q statistic) 0.0000
## Intercept22: I2 (Q statistic) 0.8711
## Intercept23: I2 (Q statistic) 0.9663
## Intercept24: I2 (Q statistic) 0.6774
## Intercept25: I2 (Q statistic) 0.7018
## Intercept26: I2 (Q statistic) 0.8218

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## Intercept27: I2 (Q statistic) 0.8069
## Intercept28: I2 (Q statistic) 0.9138
## Intercept29: I2 (Q statistic) 0.9302
## Intercept30: I2 (Q statistic) 0.9243
## Intercept31: I2 (Q statistic) 0.7753
## Intercept32: I2 (Q statistic) 0.8783
## Intercept33: I2 (Q statistic) 0.8200
## Intercept34: I2 (Q statistic) 0.7948
## Intercept35: I2 (Q statistic) 0.9236
## Intercept36: I2 (Q statistic) 0.9458
## Intercept37: I2 (Q statistic) 0.8503
## Intercept38: I2 (Q statistic) 0.7478
## Intercept39: I2 (Q statistic) 0.8842
## Intercept40: I2 (Q statistic) 0.8938
## Intercept41: I2 (Q statistic) 0.8983
## Intercept42: I2 (Q statistic) 0.7500
## Intercept43: I2 (Q statistic) 0.7580
## Intercept44: I2 (Q statistic) 0.8594
## Intercept45: I2 (Q statistic) 0.8338
## Intercept46: I2 (Q statistic) 0.8329
## Intercept47: I2 (Q statistic) 0.9536
## Intercept48: I2 (Q statistic) 0.8538
## Intercept49: I2 (Q statistic) 0.9197
## Intercept50: I2 (Q statistic) 0.7221
## Intercept51: I2 (Q statistic) 0.7732
## Intercept52: I2 (Q statistic) 0.8465
## Intercept53: I2 (Q statistic) 0.8104
## Intercept54: I2 (Q statistic) 0.8794
## Intercept55: I2 (Q statistic) 0.8361
##
## Number of studies (or clusters): 111
## Number of observed statistics: 451
## Number of estimated parameters: 110
## Degrees of freedom: 341
## -2 log likelihood: -166.7585
## OpenMx status1: 0 ("0" or "1": The optimization is considered fine.
## Other values may indicate problems.)
## Missing data are represented by "0", not "NA"
myfile <- readLowTriMat(file = "Matrices_NoPaperWithOneRelationship.txt",
                        no.var=11, na.strings="0")

n <- scan("Sample_Sizes_NoPaperWithOneRelationship.txt")

is.pd(myfile)

## 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75
## NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA NA
## 76
## NA

```

```
pattern.na(myfile, show.na=FALSE)
```

```
##      x1 x2 x3 x4 x5 x6 x7 x8 x9 x10 x11
## x1  76  8  6 14  3 14  4  3  6  3  3
## x2   8 76  4  9  4 10  6  4 10  9  4
## x3   6  4 76 20  3  6  9  5  6 12  7
## x4  14  9 20 76  4 14 13  9  9 22  6
## x5   3  4  3  4 76  6  7  3  8  6  8
## x6  14 10  6 14  6 76  4  4  8  4  5
## x7   4  6  9 13  7  4 76  9  6 16 15
## x8   3  4  5  9  3  4  9 76  2 11  3
## x9   6 10  6  9  8  8  6  2 76  7  8
## x10  3  9 12 22  6  4 16 11  7 76  7
## x11  3  4  7  6  8  5 15  3  8  7 76
```

```
random2 <- tssem1(myfile, n, method="REM", RE.type="Diag")
summary(random2)
```

```
##
## Call:
## meta(y = ES, v = acovR, RE.constraints = Diag(paste0(RE.startvalues,
##      "*Tau2_", 1:no.es, "_", 1:no.es)), RE.lbound = RE.lbound,
##      I2 = I2, model.name = model.name, suppressWarnings = TRUE,
##      silent = silent, run = run)
##
## 95% confidence intervals: z statistic approximation
## Coefficients:
##      Estimate Std.Error lbound ubound z value
## Intercept1 -3.6032e-02 4.7118e-02 -1.2838e-01 5.6317e-02 -0.7647
## Intercept2 -6.3654e-02 1.1935e-01 -2.9757e-01 1.7027e-01 -0.5333
## Intercept3 -3.3221e-02 6.3222e-02 -1.5714e-01 9.0692e-02 -0.5255
## Intercept4  3.3610e-01 9.7258e-02 1.4548e-01 5.2673e-01 3.4558
## Intercept5  1.7549e-01 6.7988e-02 4.2239e-02 3.0874e-01 2.5812
## Intercept6 -1.3482e-02 9.4541e-02 -1.9878e-01 1.7181e-01 -0.1426
## Intercept7  7.8503e-02 1.0809e-01 -1.3335e-01 2.9035e-01 0.7263
## Intercept8  3.6359e-01 4.0343e-02 2.8452e-01 4.4267e-01 9.0125
## Intercept9  7.2230e-02 1.4024e-01 -2.0264e-01 3.4710e-01 0.5150
## Intercept10 2.2179e-01 1.4501e-01 -6.2422e-02 5.0600e-01 1.5295
## Intercept11 -2.2163e-01 1.1267e-01 -4.4245e-01 -8.0040e-04 -1.9671
## Intercept12 -3.0786e-02 1.0114e-01 -2.2902e-01 1.6745e-01 -0.3044
## Intercept13 -7.2537e-02 6.6943e-02 -2.0374e-01 5.8669e-02 -1.0836
## Intercept14 -6.5522e-02 8.9637e-02 -2.4121e-01 1.1016e-01 -0.7310
## Intercept15 -3.9701e-01 1.0868e-01 -6.1001e-01 -1.8401e-01 -3.6531
## Intercept16 -2.5544e-01 5.5572e-02 -3.6436e-01 -1.4652e-01 -4.5966
## Intercept17 -1.3731e-01 8.9559e-02 -3.1284e-01 3.8222e-02 -1.5332
## Intercept18 -3.6401e-01 8.9036e-02 -5.3852e-01 -1.8951e-01 -4.0884
## Intercept19 -2.0026e-01 7.8063e-02 -3.5326e-01 -4.7262e-02 -2.5654
## Intercept20  5.8144e-01 4.5332e-02 4.9259e-01 6.7028e-01 12.8263
## Intercept21  2.9088e-01 4.7521e-02 1.9774e-01 3.8402e-01 6.1210
## Intercept22  4.7779e-01 8.4852e-02 3.1148e-01 6.4410e-01 5.6309
## Intercept23  3.1791e-01 1.2700e-01 6.8991e-02 5.6683e-01 2.5032
## Intercept24  5.7651e-01 5.4867e-02 4.6897e-01 6.8405e-01 10.5075
## Intercept25  3.9309e-01 5.8042e-02 2.7933e-01 5.0685e-01 6.7725
## Intercept26  3.6463e-01 4.5091e-02 2.7625e-01 4.5300e-01 8.0865
```


## Intercept27	3.1648e-01	6.0881e-02	1.9715e-01	4.3580e-01	5.1983
## Intercept28	5.1009e-01	1.0648e-01	3.0140e-01	7.1878e-01	4.7906
## Intercept29	3.7852e-01	7.2706e-02	2.3602e-01	5.2102e-01	5.2062
## Intercept30	5.1844e-01	7.0335e-02	3.8059e-01	6.5630e-01	7.3710
## Intercept31	6.6547e-01	4.7689e-02	5.7201e-01	7.5894e-01	13.9546
## Intercept32	5.7716e-01	6.8943e-02	4.4203e-01	7.1229e-01	8.3715
## Intercept33	6.6561e-01	3.5533e-02	5.9597e-01	7.3526e-01	18.7324
## Intercept34	4.0769e-01	6.2681e-02	2.8484e-01	5.3055e-01	6.5043
## Intercept35	2.8003e-01	1.0299e-01	7.8164e-02	4.8189e-01	2.7189
## Intercept36	6.0850e-01	1.1818e-01	3.7686e-01	8.4014e-01	5.1487
## Intercept37	6.7149e-01	1.0683e-01	4.6210e-01	8.8088e-01	6.2853
## Intercept38	6.6961e-01	4.5906e-02	5.7964e-01	7.5959e-01	14.5867
## Intercept39	6.2521e-01	8.2968e-02	4.6260e-01	7.8783e-01	7.5356
## Intercept40	6.4242e-01	8.3818e-02	4.7814e-01	8.0670e-01	7.6644
## Intercept41	5.4471e-01	1.0849e-01	3.3207e-01	7.5736e-01	5.0206
## Intercept42	5.7196e-01	6.8460e-02	4.3778e-01	7.0614e-01	8.3547
## Intercept43	5.5479e-01	5.2024e-02	4.5282e-01	6.5675e-01	10.6641
## Intercept44	5.6462e-01	9.0966e-02	3.8633e-01	7.4291e-01	6.2069
## Intercept45	5.2204e-01	7.5526e-02	3.7402e-01	6.7007e-01	6.9121
## Intercept46	5.5294e-01	5.6020e-02	4.4314e-01	6.6273e-01	9.8704
## Intercept47	5.8025e-01	1.3229e-01	3.2098e-01	8.3953e-01	4.3864
## Intercept48	5.8904e-01	4.0248e-02	5.1015e-01	6.6792e-01	14.6352
## Intercept49	5.6209e-01	6.5761e-02	4.3320e-01	6.9098e-01	8.5475
## Intercept50	5.5425e-01	1.0161e-01	3.5510e-01	7.5341e-01	5.4546
## Intercept51	6.1570e-01	4.6481e-02	5.2460e-01	7.0680e-01	13.2463
## Intercept52	5.7267e-01	1.0040e-01	3.7588e-01	7.6945e-01	5.7037
## Intercept53	5.2080e-01	6.2207e-02	3.9888e-01	6.4273e-01	8.3720
## Intercept54	5.7421e-01	6.4530e-02	4.4773e-01	7.0068e-01	8.8982
## Intercept55	5.0472e-01	6.5884e-02	3.7559e-01	6.3385e-01	7.6608
## Tau2_1_1	9.6225e-03	8.9027e-03	-7.8264e-03	2.7071e-02	1.0809
## Tau2_2_2	7.4744e-02	5.1064e-02	-2.5339e-02	1.7483e-01	1.4637
## Tau2_3_3	4.7213e-02	2.1214e-02	5.6351e-03	8.8791e-02	2.2256
## Tau2_4_4	2.2357e-02	2.3586e-02	-2.3870e-02	6.8584e-02	0.9479
## Tau2_5_5	5.5112e-02	2.6197e-02	3.7662e-03	1.0646e-01	2.1037
## Tau2_6_6	3.0829e-02	2.6083e-02	-2.0293e-02	8.1952e-02	1.1819
## Tau2_7_7	3.0237e-02	2.8467e-02	-2.5558e-02	8.6031e-02	1.0622
## Tau2_8_8	3.7740e-03	5.1326e-03	-6.2858e-03	1.3834e-02	0.7353
## Tau2_9_9	5.4757e-02	4.8689e-02	-4.0671e-02	1.5018e-01	1.1246
## Tau2_10_10	5.7506e-02	5.1199e-02	-4.2841e-02	1.5785e-01	1.1232
## Tau2_11_11	4.3606e-02	3.6580e-02	-2.8089e-02	1.1530e-01	1.1921
## Tau2_12_12	8.6167e-02	4.3397e-02	1.1100e-03	1.7122e-01	1.9855
## Tau2_13_13	1.1975e-02	1.1137e-02	-9.8536e-03	3.3804e-02	1.0752
## Tau2_14_14	7.4693e-02	3.5733e-02	4.6568e-03	1.4473e-01	2.0903
## Tau2_15_15	6.5338e-02	4.1911e-02	-1.6807e-02	1.4748e-01	1.5590
## Tau2_16_16	9.2185e-03	8.5238e-03	-7.4878e-03	2.5925e-02	1.0815
## Tau2_17_17	7.2992e-02	3.6032e-02	2.3702e-03	1.4361e-01	2.0257
## Tau2_18_18	6.5655e-02	3.3248e-02	4.9055e-04	1.3082e-01	1.9747
## Tau2_19_19	1.8758e-02	1.9567e-02	-1.9593e-02	5.7109e-02	0.9587
## Tau2_20_20	3.3766e-02	1.2375e-02	9.5117e-03	5.8020e-02	2.7286
## Tau2_21_21	1.0002e-10	9.9812e-03	-1.9563e-02	1.9563e-02	0.0000
## Tau2_22_22	3.2385e-02	2.5198e-02	-1.7002e-02	8.1772e-02	1.2852
## Tau2_23_23	1.3819e-01	6.7338e-02	6.2134e-03	2.7017e-01	2.0522
## Tau2_24_24	1.0201e-02	9.2037e-03	-7.8381e-03	2.8240e-02	1.1083
## Tau2_25_25	1.3743e-02	1.1318e-02	-8.4397e-03	3.5926e-02	1.2143

```

## Tau2_26_26 1.8364e-02 9.2898e-03 1.5684e-04 3.6572e-02 1.9768
## Tau2_27_27 1.9968e-02 1.2971e-02 -5.4553e-03 4.5391e-02 1.5394
## Tau2_28_28 4.0193e-02 3.2382e-02 -2.3276e-02 1.0366e-01 1.2412
## Tau2_29_29 6.4379e-02 2.7826e-02 9.8404e-03 1.1892e-01 2.3136
## Tau2_30_30 5.8665e-02 2.4349e-02 1.0942e-02 1.0639e-01 2.4094
## Tau2_31_31 1.6565e-02 9.6009e-03 -2.2530e-03 3.5382e-02 1.7253
## Tau2_32_32 3.7248e-02 2.0045e-02 -2.0406e-03 7.6536e-02 1.8582
## Tau2_33_33 2.3199e-02 8.2469e-03 7.0358e-03 3.9363e-02 2.8131
## Tau2_34_34 1.8409e-02 1.3329e-02 -7.7151e-03 4.4532e-02 1.3811
## Tau2_35_35 5.8831e-02 3.7144e-02 -1.3971e-02 1.3163e-01 1.5838
## Tau2_36_36 9.0370e-02 5.2069e-02 -1.1683e-02 1.9242e-01 1.7356
## Tau2_37_37 2.6980e-02 2.8120e-02 -2.8133e-02 8.2094e-02 0.9595
## Tau2_38_38 1.1232e-02 8.4714e-03 -5.3713e-03 2.7836e-02 1.3259
## Tau2_39_39 3.7075e-02 2.3339e-02 -8.6691e-03 8.2820e-02 1.5885
## Tau2_40_40 4.9139e-02 2.8050e-02 -5.8377e-03 1.0412e-01 1.7518
## Tau2_41_41 4.2154e-02 3.3133e-02 -2.2786e-02 1.0709e-01 1.2722
## Tau2_42_42 1.4161e-02 1.3878e-02 -1.3039e-02 4.1361e-02 1.0204
## Tau2_43_43 1.5109e-02 1.0218e-02 -4.9179e-03 3.5136e-02 1.4787
## Tau2_44_44 2.9266e-02 2.3458e-02 -1.6711e-02 7.5244e-02 1.2476
## Tau2_45_45 2.4068e-02 1.8455e-02 -1.2103e-02 6.0239e-02 1.3042
## Tau2_46_46 2.3691e-02 1.3983e-02 -3.7155e-03 5.1098e-02 1.6943
## Tau2_47_47 9.9351e-02 6.0422e-02 -1.9075e-02 2.1778e-01 1.6443
## Tau2_48_48 2.0466e-02 9.2436e-03 2.3494e-03 3.8583e-02 2.2141
## Tau2_49_49 5.8900e-02 2.3417e-02 1.3003e-02 1.0480e-01 2.5153
## Tau2_50_50 1.1853e-02 2.0646e-02 -2.8612e-02 5.2318e-02 0.5741
## Tau2_51_51 1.9716e-02 1.0271e-02 -4.1546e-04 3.9847e-02 1.9195
## Tau2_52_52 2.6821e-02 2.4806e-02 -2.1797e-02 7.5439e-02 1.0812
## Tau2_53_53 2.0787e-02 1.3777e-02 -6.2164e-03 4.7790e-02 1.5088
## Tau2_54_54 2.6938e-02 1.6139e-02 -4.6937e-03 5.8570e-02 1.6691
## Tau2_55_55 2.4621e-02 1.5575e-02 -5.9046e-03 5.5147e-02 1.5809
## Pr(>|z|)
## Intercept1 0.4444324
## Intercept2 0.5937971
## Intercept3 0.5992583
## Intercept4 0.0005487 ***
## Intercept5 0.0098447 **
## Intercept6 0.8865994
## Intercept7 0.4676604
## Intercept8 < 2.2e-16 ***
## Intercept9 0.6065244
## Intercept10 0.1261425
## Intercept11 0.0491754 *
## Intercept12 0.7608355
## Intercept13 0.2785580
## Intercept14 0.4648005
## Intercept15 0.0002591 ***
## Intercept16 4.294e-06 ***
## Intercept17 0.1252318
## Intercept18 4.344e-05 ***
## Intercept19 0.0103058 *
## Intercept20 < 2.2e-16 ***
## Intercept21 9.299e-10 ***
## Intercept22 1.793e-08 ***
## Intercept23 0.0123080 *

```

```

## Intercept24 < 2.2e-16 ***
## Intercept25 1.266e-11 ***
## Intercept26 6.661e-16 ***
## Intercept27 2.011e-07 ***
## Intercept28 1.663e-06 ***
## Intercept29 1.928e-07 ***
## Intercept30 1.692e-13 ***
## Intercept31 < 2.2e-16 ***
## Intercept32 < 2.2e-16 ***
## Intercept33 < 2.2e-16 ***
## Intercept34 7.807e-11 ***
## Intercept35 0.0065503 **
## Intercept36 2.623e-07 ***
## Intercept37 3.271e-10 ***
## Intercept38 < 2.2e-16 ***
## Intercept39 4.863e-14 ***
## Intercept40 1.799e-14 ***
## Intercept41 5.150e-07 ***
## Intercept42 < 2.2e-16 ***
## Intercept43 < 2.2e-16 ***
## Intercept44 5.404e-10 ***
## Intercept45 4.774e-12 ***
## Intercept46 < 2.2e-16 ***
## Intercept47 1.153e-05 ***
## Intercept48 < 2.2e-16 ***
## Intercept49 < 2.2e-16 ***
## Intercept50 4.908e-08 ***
## Intercept51 < 2.2e-16 ***
## Intercept52 1.172e-08 ***
## Intercept53 < 2.2e-16 ***
## Intercept54 < 2.2e-16 ***
## Intercept55 1.843e-14 ***
## Tau2_1_1 0.2797618
## Tau2_2_2 0.1432632
## Tau2_3_3 0.0260410 *
## Tau2_4_4 0.3431686
## Tau2_5_5 0.0354024 *
## Tau2_6_6 0.2372260
## Tau2_7_7 0.2881641
## Tau2_8_8 0.4621592
## Tau2_9_9 0.2607429
## Tau2_10_10 0.2613528
## Tau2_11_11 0.2332305
## Tau2_12_12 0.0470841 *
## Tau2_13_13 0.2822723
## Tau2_14_14 0.0365923 *
## Tau2_15_15 0.1190064
## Tau2_16_16 0.2794718
## Tau2_17_17 0.0427911 *
## Tau2_18_18 0.0483001 *
## Tau2_19_19 0.3377326
## Tau2_20_20 0.0063603 **
## Tau2_21_21 1.0000000
## Tau2_22_22 0.1987109

```

```

## Tau2_23_23 0.0401468 *
## Tau2_24_24 0.2677148
## Tau2_25_25 0.2246449
## Tau2_26_26 0.0480590 *
## Tau2_27_27 0.1237069
## Tau2_28_28 0.2145351
## Tau2_29_29 0.0206897 *
## Tau2_30_30 0.0159806 *
## Tau2_31_31 0.0844729 .
## Tau2_32_32 0.0631456 .
## Tau2_33_33 0.0049066 **
## Tau2_34_34 0.1672387
## Tau2_35_35 0.1132299
## Tau2_36_36 0.0826358 .
## Tau2_37_37 0.3373197
## Tau2_38_38 0.1848679
## Tau2_39_39 0.1121672
## Tau2_40_40 0.0798004 .
## Tau2_41_41 0.2032851
## Tau2_42_42 0.3075363
## Tau2_43_43 0.1392301
## Tau2_44_44 0.2121788
## Tau2_45_45 0.1921769
## Tau2_46_46 0.0902172 .
## Tau2_47_47 0.1001197
## Tau2_48_48 0.0268199 *
## Tau2_49_49 0.0118943 *
## Tau2_50_50 0.5659019
## Tau2_51_51 0.0549192 .
## Tau2_52_52 0.2795888
## Tau2_53_53 0.1313594
## Tau2_54_54 0.0950911 .
## Tau2_55_55 0.1139117
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Q statistic on the homogeneity of effect sizes: 3657.332
## Degrees of freedom of the Q statistic: 361
## P value of the Q statistic: 0
##
## Heterogeneity indices (based on the estimated Tau2):
##
##           Estimate
## Intercept1: I2 (Q statistic) 0.6582
## Intercept2: I2 (Q statistic) 0.9373
## Intercept3: I2 (Q statistic) 0.9043
## Intercept4: I2 (Q statistic) 0.8173
## Intercept5: I2 (Q statistic) 0.9170
## Intercept6: I2 (Q statistic) 0.8605
## Intercept7: I2 (Q statistic) 0.8582
## Intercept8: I2 (Q statistic) 0.4306
## Intercept9: I2 (Q statistic) 0.9164
## Intercept10: I2 (Q statistic) 0.9200
## Intercept11: I2 (Q statistic) 0.8972
## Intercept12: I2 (Q statistic) 0.9452

```

```
## Intercept13: I2 (Q statistic) 0.7055
## Intercept14: I2 (Q statistic) 0.9373
## Intercept15: I2 (Q statistic) 0.9291
## Intercept16: I2 (Q statistic) 0.6487
## Intercept17: I2 (Q statistic) 0.9359
## Intercept18: I2 (Q statistic) 0.9295
## Intercept19: I2 (Q statistic) 0.7897
## Intercept20: I2 (Q statistic) 0.8749
## Intercept21: I2 (Q statistic) 0.0000
## Intercept22: I2 (Q statistic) 0.8664
## Intercept23: I2 (Q statistic) 0.9651
## Intercept24: I2 (Q statistic) 0.6720
## Intercept25: I2 (Q statistic) 0.7336
## Intercept26: I2 (Q statistic) 0.7871
## Intercept27: I2 (Q statistic) 0.8001
## Intercept28: I2 (Q statistic) 0.8896
## Intercept29: I2 (Q statistic) 0.9285
## Intercept30: I2 (Q statistic) 0.9227
## Intercept31: I2 (Q statistic) 0.7724
## Intercept32: I2 (Q statistic) 0.8834
## Intercept33: I2 (Q statistic) 0.8398
## Intercept34: I2 (Q statistic) 0.7872
## Intercept35: I2 (Q statistic) 0.9219
## Intercept36: I2 (Q statistic) 0.9478
## Intercept37: I2 (Q statistic) 0.8438
## Intercept38: I2 (Q statistic) 0.6940
## Intercept39: I2 (Q statistic) 0.8822
## Intercept40: I2 (Q statistic) 0.9081
## Intercept41: I2 (Q statistic) 0.8944
## Intercept42: I2 (Q statistic) 0.7397
## Intercept43: I2 (Q statistic) 0.7530
## Intercept44: I2 (Q statistic) 0.8549
## Intercept45: I2 (Q statistic) 0.8286
## Intercept46: I2 (Q statistic) 0.8281
## Intercept47: I2 (Q statistic) 0.9522
## Intercept48: I2 (Q statistic) 0.8109
## Intercept49: I2 (Q statistic) 0.9237
## Intercept50: I2 (Q statistic) 0.7034
## Intercept51: I2 (Q statistic) 0.8025
## Intercept52: I2 (Q statistic) 0.8432
## Intercept53: I2 (Q statistic) 0.8067
## Intercept54: I2 (Q statistic) 0.8441
## Intercept55: I2 (Q statistic) 0.8328
##
## Number of studies (or clusters): 76
## Number of observed statistics: 416
## Number of estimated parameters: 110
## Degrees of freedom: 306
## -2 log likelihood: -156.1451
## OpenMx status1: 0 ("0" or "1": The optimization is considered fine.
## Other values may indicate problems.)
```

```
sessionInfo()
```

```
## R version 3.6.0 (2019-04-26)
```

```
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Linux Mint 19.1
##
## Matrix products: default
## BLAS: /usr/lib/x86_64-linux-gnu/openblas/libblas.so.3
## LAPACK: /usr/lib/x86_64-linux-gnu/libopenblas-r0.2.20.so
##
## locale:
## [1] LC_CTYPE=C.UTF-8 LC_NUMERIC=C LC_TIME=C.UTF-8
## [4] LC_COLLATE=C.UTF-8 LC_MONETARY=C.UTF-8 LC_MESSAGES=C.UTF-8
## [7] LC_PAPER=C.UTF-8 LC_NAME=C LC_ADDRESS=C
## [10] LC_TELEPHONE=C LC_MEASUREMENT=C.UTF-8 LC_IDENTIFICATION=C
##
## attached base packages:
## [1] stats graphics grDevices utils datasets methods base
##
## other attached packages:
## [1] metaSEM_1.2.1.1 OpenMx_2.13.2
##
## loaded via a namespace (and not attached):
## [1] Rcpp_1.0.1 mvtnorm_1.0-10 lattice_0.20-38 digest_0.6.18
## [5] MASS_7.3-51.4 grid_3.6.0 stats4_3.6.0 magrittr_1.5
## [9] ellipse_0.4.1 evaluate_0.13 stringi_1.4.3 Matrix_1.2-17
## [13] pbivnorm_0.6.0 rmarkdown_1.12 tools_3.6.0 stringr_1.4.0
## [17] xfun_0.6 yaml_2.2.0 parallel_3.6.0 compiler_3.6.0
## [21] mnormt_1.5-5 htmltools_0.3.6 lavaan_0.6-3 knitr_1.22
```