

OpenMX status1: 5 – Problematic in this case?

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```
library(metaSEM)

# reads in csv files containing results from each individual site.
combinedresults1 <- read.csv("combinedresults1.csv")
combinedresults2 <- read.csv("combinedresults2.csv")
combinedresults3 <- read.csv("combinedresults3.csv")

# analyses repeated for each set of exclusion criteria
# three-level random-effects meta-analysis in MetaSEM

fit1 <- meta3(y=yi, v=vi, cluster=location, data=combinedresults1)
fit1 <- rerun(fit1)

summary(fit1)

##
## Call:
## meta3(y = yi, v = vi, cluster = location, data = combinedresults1)
##
## 95% confidence intervals: z statistic approximation (robust=FALSE)
## Coefficients:
##      Estimate   Std.Error   lbound   ubound z value Pr(>|z|)
## Intercept  2.9610e-02  4.1560e-02 -5.1845e-02  1.1107e-01  0.7125  0.4762
## Tau2_2     1.0000e-10           NA           NA           NA           NA
## Tau2_3     6.1979e-03           NA           NA           NA           NA
##
## Q statistic on the homogeneity of effect sizes: 25.81538
## Degrees of freedom of the Q statistic: 20
## P value of the Q statistic: 0.1719963
##
## Heterogeneity indices (based on the estimated Tau2):
##              Estimate
## I2_2 (Typical v: Q statistic)  0.0000
## I2_3 (Typical v: Q statistic)  0.1371
##
## Number of studies (or clusters): 18
## Number of observed statistics: 21
## Number of estimated parameters: 3
## Degrees of freedom: 18
## -2 log likelihood: -0.8491002
## OpenMx status1: 0 ("0" or "1": The optimization is considered fine.
## Other values may indicate problems.)

fit2 <- meta3(y=yi, v=vi, cluster=location, data=combinedresults2)
fit2 <- rerun(fit2)
```

```
summary(fit2)
```

```
##
```

```

## Call:
## meta3(y = yi, v = vi, cluster = location, data = combinedresults2)
##
## 95% confidence intervals: z statistic approximation (robust=FALSE)
## Coefficients:
##           Estimate  Std.Error    lbound    ubound z value Pr(>|z|)
## Intercept 7.2836e-02 5.7794e-02 -4.0437e-02 1.8611e-01 1.2603 0.2076
## Tau2_2    1.0000e-10      NA         NA         NA      NA      NA
## Tau2_3    2.2938e-02      NA         NA         NA      NA      NA
##
## Q statistic on the homogeneity of effect sizes: 36.32022
## Degrees of freedom of the Q statistic: 20
## P value of the Q statistic: 0.01410028
##
## Heterogeneity indices (based on the estimated Tau2):
##           Estimate
## I2_2 (Typical v: Q statistic) 0.0000
## I2_3 (Typical v: Q statistic) 0.3322
##
## Number of studies (or clusters): 18
## Number of observed statistics: 21
## Number of estimated parameters: 3
## Degrees of freedom: 18
## -2 log likelihood: 13.75179
## OpenMx status1: 0 ("0" or "1": The optimization is considered fine.
## Other values may indicate problems.)

```

```

fit3 <- meta3(y=yi, v=vi, cluster=location, data=combinedresults3)
summary(fit3)

```

```

##
## Call:
## meta3(y = yi, v = vi, cluster = location, data = combinedresults3)
##
## 95% confidence intervals: z statistic approximation (robust=FALSE)
## Coefficients:
##           Estimate  Std.Error    lbound    ubound z value Pr(>|z|)
## Intercept 0.0427649 0.0700222 -0.0944760 0.1800058 0.6107 0.5414
## Tau2_2    0.0097986 0.1070615 -0.2000382 0.2196354 0.0915 0.9271
## Tau2_3    0.0014486 0.1095631 -0.2132911 0.2161884 0.0132 0.9895
##
## Q statistic on the homogeneity of effect sizes: 29.6068
## Degrees of freedom of the Q statistic: 20
## P value of the Q statistic: 0.07648031
##
## Heterogeneity indices (based on the estimated Tau2):
##           Estimate
## I2_2 (Typical v: Q statistic) 0.1554
## I2_3 (Typical v: Q statistic) 0.0230
##
## Number of studies (or clusters): 18
## Number of observed statistics: 21
## Number of estimated parameters: 3
## Degrees of freedom: 18
## -2 log likelihood: 12.5977

```

```
## OpenMx status1: 0 ("0" or "1": The optimization is considered fine.  
## Other values may indicate problems.)
```

```
# note OpenMX status1: 5 for the first two
```

```
## No. of units within clusters
```

```
table(combinedresults1$location)
```

```
##  
## ashland azusa byui cnj illinois ithaca kansas  
## 1 1 1 1 1 1 2  
## occid pace plu riverside sou ufl upenn  
## 1 2 1 1 1 1 1  
## uwmadison vcu wesleyan wpi  
## 2 1 1 1
```

```
table(combinedresults2$location)
```

```
##  
## ashland azusa byui cnj illinois ithaca kansas  
## 1 1 1 1 1 1 2  
## occid pace plu riverside sou ufl upenn  
## 1 2 1 1 1 1 1  
## uwmadison vcu wesleyan wpi  
## 2 1 1 1
```

```
table(combinedresults3$location)
```

```
##  
## ashland azusa byui cnj illinois ithaca kansas  
## 1 1 1 1 1 1 2  
## occid pace plu riverside sou ufl upenn  
## 1 2 1 1 1 1 1  
## uwmadison vcu wesleyan wpi  
## 2 1 1 1
```