

smdMTS function

Marie Frech (modified by Mike W.-L. Cheung)

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```
library(metaSEM)

m <- rbind(c(0.06,0.57,0.93,0.78),
           c(0.30,0.71,0.41,0.55))
colnames(m) <- paste0("m_", c("control", "round", "precise", "both"))

v <- rbind(c(1.14,1.41,1.57,1.51),
           c(1.33,1.96,1.64,1.80))
colnames(v) <- paste0("v_", c("control", "round", "precise", "both"))

n <- rbind(c(41,32,48,80),
           c(47,49,54,103))
colnames(n) <- paste0("n_", c("control", "round", "precise", "both"))

my.df1 <- cbind(m, v, n)
my.df1

##      m_control m_round m_precise m_both v_control v_round v_precise v_both
## [1,]    0.06    0.57    0.93    0.78    1.14    1.41    1.57    1.51
## [2,]    0.30    0.71    0.41    0.55    1.33    1.96    1.64    1.80
##      n_control n_round n_precise n_both
## [1,]         41         32         48         80
## [2,]         47         49         54        103

my.df2 <- t(apply(my.df1, 1, function(x) smdMTS(m=x[1:4],
                                              v=x[5:8],
                                              n=x[9:12],
                                              list.output = FALSE)))

my.df2

##      y2_1      y3_1      y4_1 C(y2_1 y2_1) C(y3_1 y2_1) C(y4_1 y2_1)
## [1,] 0.4215299 0.7205015 0.5976784 0.05490885 0.02467856 0.02460599
## [2,] 0.3110697 0.0834918 0.1902357 0.04121170 0.02099741 0.02111619
##      C(y3_1 y3_1) C(y4_1 y3_1) C(y4_1 y4_1)
## [1,] 0.04573634 0.02509788 0.03731434
## [2,] 0.03920670 0.02103921 0.03074308

fixed1 <- meta(y=my.df2[, 1:3],
              v=my.df2[, 4:9],
              RE.constraints = diag(0, ncol=3, nrow=3))
summary(fixed1)

##
## Call:
```

```

## meta(y = my.df2[, 1:3], v = my.df2[, 4:9], RE.constraints = diag(0,
##   ncol = 3, nrow = 3))
##
## 95% confidence intervals: z statistic approximation (robust=FALSE)
## Coefficients:
##           Estimate Std.Error   lbound   ubound z value Pr(>|z|)
## Intercept1 0.374887  0.153249 0.074525 0.675249  2.4463 0.014435 *
## Intercept2 0.376978  0.145288 0.092218 0.661738  2.5947 0.009468 **
## Intercept3 0.373876  0.129816 0.119441 0.628311  2.8800 0.003976 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Q statistic on the homogeneity of effect sizes: 5.982802
## Degrees of freedom of the Q statistic: 3
## P value of the Q statistic: 0.11245
##
## Heterogeneity indices (based on the estimated Tau2):
##           Estimate
## Intercept1: I2 (Q statistic)      0
## Intercept2: I2 (Q statistic)      0
## Intercept3: I2 (Q statistic)      0
##
## Number of studies (or clusters): 2
## Number of observed statistics: 6
## Number of estimated parameters: 3
## Degrees of freedom: 3
## -2 log likelihood: -4.005472
## OpenMx status1: 0 ("0" or "1": The optimization is considered fine.
## Other values may indicate problems.)

```

sessionInfo()

```

## R version 3.6.3 (2020-02-29)
## Platform: x86_64-pc-linux-gnu (64-bit)
## Running under: Ubuntu 18.04.4 LTS
##
## Matrix products: default
## BLAS:   /usr/lib/x86_64-linux-gnu/blas/libblas.so.3.7.1
## LAPACK: /usr/lib/x86_64-linux-gnu/lapack/liblapack.so.3.7.1
##
## locale:
##  [1] LC_CTYPE=en_SG.UTF-8      LC_NUMERIC=C
##  [3] LC_TIME=en_SG.UTF-8      LC_COLLATE=en_SG.UTF-8
##  [5] LC_MONETARY=en_SG.UTF-8  LC_MESSAGES=en_SG.UTF-8
##  [7] LC_PAPER=en_SG.UTF-8     LC_NAME=C
##  [9] LC_ADDRESS=C             LC_TELEPHONE=C
## [11] LC_MEASUREMENT=en_SG.UTF-8 LC_IDENTIFICATION=C
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods    base
##
## other attached packages:
## [1] metaSEM_1.2.3.2 OpenMx_2.17.3
##
## loaded via a namespace (and not attached):

```

```
## [1] Rcpp_1.0.4.6    mvtnorm_1.1-0    lattice_0.20-41  digest_0.6.25
## [5] MASS_7.3-51.5    grid_3.6.3       stats4_3.6.3     magrittr_1.5
## [9] ellipse_0.4.1    evaluate_0.14    rlang_0.4.5      stringi_1.4.6
## [13] Matrix_1.2-18    pbivnorm_0.6.0   rmarkdown_2.1    tools_3.6.3
## [17] stringr_1.4.0    xfun_0.12        yaml_2.2.1       parallel_3.6.3
## [21] compiler_3.6.3   mnormt_1.5-6     htmltools_0.4.0  lavaan_0.6-5
## [25] knitr_1.28
```