fitDTVARMxID: Internal Tests

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Tests

```
#> test-fitDTVARMxID-alpha-fixed-false-default
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-alpha-fixed-false

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-alpha-fixed-true-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-beta-fixed-false-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

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#> Test passed
#> Test passed

#> test-fitDTVARMxID-beta-fixed-false

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-beta-fixed-true-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-beta-fixed-true

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-fitdtvarmxid
#> 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)
#>
#> Attaching package:  'fitDTVARMxID'
#> The following objects are masked _by_ '.GlobalEnv':
#>
#>     converged, FitDTVARMxID, InvSoftplus, LDL, Softplus
#> Intermediate files will be saved in /home/rstudio/working-dir/.setup/latex
#> Running DTVAR_ID1 with 9 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR_ID1 with 9 parameters
```

```
#>
#>  Lowest minimum so far:   5619.63783832795
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=5619.6378 (started at 15085.69)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> 0.906265961215118,-0.00578557881241538,0.00168822073096739,0.912644753618723,-0.150344569599269,0
#> Running DTVAR_ID2 with 9 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR_ID2 with 9 parameters
#>
#>  Lowest minimum so far:   5692.42179705016
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=5692.4218 (started at 12980.366)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> 0.884521668281333,-0.00471913277117534,0.00327845792236895,0.885052991553922,0.100735205611306,0
#> Running DTVAR_ID3 with 9 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR_ID3 with 9 parameters
#>
#>  Lowest minimum so far:   5713.25310694274
#>
#> Solution found
```

```
#>
#>  Solution found!   Final fit=5713.2531 (started at 14462.738)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> 0.873476552709391,-0.0045457428253566 4,0.0063228676018364 2,0.91827679393197,-0.0892544409805995,
#> Running DTVAR_ID4 with 9 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR_ID4 with 9 parameters
#>
#>  Lowest minimum so far:   5678.39313531445
```

```
#>
#> Solution found
```

```
#>
#>  Solution found!  Final fit=5678.3931 (started at 13805.524)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> 0.881480365312164,0.0248356083058264,0.0198769881147034,0.899669704438874,0.3646752657337782,0.083
#> Running DTVAR_ID5 with 9 parameters
#>
#> Beginning initial fit attempt
#> Running DTVAR_ID5 with 9 parameters
#>
#>  Lowest minimum so far:  5616.44358425597
#>
#> Solution found
```

```
#>
#>  Solution found!  Final fit=5616.4436 (started at 13627.367)  (1 attempt(s):  1
valid, 0 errors)
#>  Start values from best fit:
#> 0.891067736535099,-0.0097504291183501,-0.00492878085244876,0.899812296949088,0.2541637269835,0.21

#>
#> Estimated paramaters per individual.
#>                              beta_1_1     beta_2_1     beta_1_2  beta_2_2
#> FitDTVARMxID_DTVAR_ID1.Rds 0.9062660 -0.005785579  0.001688221 0.9126448
#> FitDTVARMxID_DTVAR_ID2.Rds 0.8845217 -0.004719133  0.003278458 0.8850530
#> FitDTVARMxID_DTVAR_ID3.Rds 0.8734766 -0.004545743  0.006322868 0.9182768
#> FitDTVARMxID_DTVAR_ID4.Rds 0.8814804  0.024835608  0.019876988 0.8996697
#> FitDTVARMxID_DTVAR_ID5.Rds 0.8910677 -0.009750429 -0.004928781 0.8998123
#>                                  nu_1_1      nu_2_1    psi_l_2_1 psi_d_1_1
#> FitDTVARMxID_DTVAR_ID1.Rds -0.15034457  0.18494313  0.009590699 0.4147116
#> FitDTVARMxID_DTVAR_ID2.Rds  0.10073521  0.18254409 -0.021005965 0.5361416
#> FitDTVARMxID_DTVAR_ID3.Rds -0.08925444 -0.14075811 -0.034192909 0.6059036
#> FitDTVARMxID_DTVAR_ID4.Rds  0.36467527  0.08344354 -0.012945907 0.5159296
#> FitDTVARMxID_DTVAR_ID5.Rds  0.25416373  0.21874157 -0.051921445 0.5249892
#>                             psi_d_2_1
#> FitDTVARMxID_DTVAR_ID1.Rds 0.5758836
#> FitDTVARMxID_DTVAR_ID2.Rds 0.5681441
#> FitDTVARMxID_DTVAR_ID3.Rds 0.5314220
#> FitDTVARMxID_DTVAR_ID4.Rds 0.5659962
#> FitDTVARMxID_DTVAR_ID5.Rds 0.4596205
#> Test passed
#> Test passed
#> Test passed
```

```
#> Test passed

#> test-fitDTVARMxID-mu0-fixed-false-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-mu0-fixed-false

#> Test passed
#> Test passed
#> Test passed
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#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-mu0-fixed-true-default

#> Test passed
#> Test passed
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#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-mu0-func-true

#> Test passed
#> Test passed

#> test-fitDTVARMxID-nu-fixed-false-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-nu-fixed-false
```

```
#> Test passed
#> Test passed
#> Test passed
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#> Test passed
#> Test passed
#> Test passed
```

```
#> test-fitDTVARMxID-psi-diag-false-default
```

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#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
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```
#> test-fitDTVARMxID-psi-diag-false
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> test-fitDTVARMxID-psi-diag-true-default
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
```

```
#> test-fitDTVARMxID-sigma0-fixed-false-diag-false
```

```
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
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```
#> test-fitDTVARMxID-sigma0-fixed-false-diag-true-default
```

```
#> Test passed
#> Test passed
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#> Test passed
#> Test passed
#> Test passed
```

```
#> test-fitDTVARMxID-sigma0-fixed-true-diag-false-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-sigma0-fixed-true-diag-true-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-sigma0-func-true

#> Test passed
#> Test passed

#> test-fitDTVARMxID-theta-default

#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-theta-fixed-false-default

#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed
#> Test passed

#> test-fitDTVARMxID-theta-fixed-false

#> Test passed
#> Test passed
#> Test passed
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#> Test passed
#> Test passed
#> [[1]]
#> [[1]][[1]]
```

```
#> [[1]][[1]]$value
#> [[1]][[1]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[1]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[2]]
#> [[1]][[2]]$value
#> [[1]][[2]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[2]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[3]]
#> [[1]][[3]]$value
#> [[1]][[3]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[3]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[4]]
#> [[1]][[4]]$value
#> [[1]][[4]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[4]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[5]]
#> [[1]][[5]]$value
#> [[1]][[5]]$value[[1]]
#> [1] TRUE
#>
#>
```

```
#> [[1]][[5]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[6]]
#> [[1]][[6]]$value
#> [[1]][[6]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[6]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[7]]
#> [[1]][[7]]$value
#> [[1]][[7]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[7]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[8]]
#> [[1]][[8]]$value
#> [[1]][[8]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[8]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[9]]
#> [[1]][[9]]$value
#> [[1]][[9]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[9]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[10]]
```

```
#> [[1]][[10]]$value
#> [[1]][[10]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[10]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[11]]
#> [[1]][[11]]$value
#> [[1]][[11]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[11]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[12]]
#> [[1]][[12]]$value
#> [[1]][[12]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[12]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[13]]
#> [[1]][[13]]$value
#> [[1]][[13]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[13]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[14]]
#> [[1]][[14]]$value
#> [[1]][[14]]$value[[1]]
#> [1] TRUE
#>
#>
```

```
#> [[1]][[14]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[15]]
#> [[1]][[15]]$value
#> [[1]][[15]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[15]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[16]]
#> [[1]][[16]]$value
#> [[1]][[16]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[16]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[17]]
#> [[1]][[17]]$value
#> [[1]][[17]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[17]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[18]]
#> [[1]][[18]]$value
#> [[1]][[18]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[18]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[19]]
```

```
#> [[1]][[19]]$value
#> [[1]][[19]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[19]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[20]]
#> [[1]][[20]]$value
#> [[1]][[20]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[20]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[21]]
#> [[1]][[21]]$value
#> [[1]][[21]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[21]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[22]]
#> [[1]][[22]]$value
#> [[1]][[22]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[22]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[23]]
#> [[1]][[23]]$value
#> [[1]][[23]]$value[[1]]
#> [1] TRUE
#>
#>
```

```
#> [[1]][[23]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[24]]
#> [[1]][[24]]$value
#> [[1]][[24]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[24]]$visible
#> [1] TRUE
#>
#>
#> [[1]][[25]]
#> [[1]][[25]]$value
#> [[1]][[25]]$value[[1]]
#> [1] TRUE
#>
#>
#> [[1]][[25]]$visible
#> [1] TRUE
```

Environment

```
ls()

#> [1] "root"
```

Class

```
#> [[1]]
#> [1] "root_criterion"
```

References

R Core Team. (2025). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria. https://www.R-project.org/