BISR: Focus report

Date: 2017-07-18

## Legend

* Corr(Levels)Est = correlation between intercepts (factor scores) of two processes
* Corr(Slopes)Est = correlation between linear slopes (factor scores) of two processes
* Corr(Resid)Est = correlation between residuals of two processes

Correlations have been computed withing Mplus.

Note: cases in which restricted (co)variances or insufficient decimals prevent the computation of correlations are marked by ---

**Correlations** are reported in the form : **est(se) pval star**  
where  
- est is the covariance estimate on the original metric  
- se is the standard error on the original metric  
- pval is the p-value associated with the raw covariance  
- star is significance indicator associated with corresponding covariance estimate, with ., \*, \*\*, and \*\*\* indicating significance at .10, .05, .01, and .001 alpha levels, respectively

# Group by domain

## male

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| domain | study | process\_a | process\_b |  | Corr(Levels)Est | Corr(Slopes)Est | Corr(Residuals)Est |
| gait-grip | eas | grip | gait | 72 | .32( .45), =.48 | .24(2.86), =.93 | .21( .25), =.39 |
| gait-grip | hrs | grip | gait | 3034 | .22( .05), <.01 \*\*\* | .30( .30), =.32 | .06( .04), =.07 . |
| gait-grip | ilse | grip | tug | 252 | .29( .43), =.51 | .84(1.24), =.50 | -.28( .10), =.01 \*\* |
| gait-grip | lasa | grip | gait | 800 | -.35( .08), <.01 \*\*\* | -.76( .19), <.01 \*\*\* | -.04( .04), =.37 |
| gait-grip | map | gait | grip | 309 | .30( .08), <.01 \*\*\* | .40( .34), =.24 | .01( .06), =.92 |
| gait-grip | nuage | grip | gait | 847 | -.20( .06), <.01 \*\*\* | -.24( .28), =.39 | -.05( .02), =.04 \* |
| gait-grip | nuage | grip | tug | 847 | -.25( .05), <.01 \*\*\* | -.24( .12), =.05 \* | -.04( .02), =.05 . |
| gait-grip | octo | grip | gait | 138 | -.35( .19), =.07 . | -.70( .53), =.19 | -.13( .08), =.11 |
| gait-grip | satsa | gait | grip | 265 | -.51( .49), =.30 | -.42( .46), =.37 | -.02( .07), =.74 |
| pulmonary-gait | eas | pef | gait | 72 | -.04( .44), =.93 | -.45(1.86), =.81 | .18( .21), =.40 |
| pulmonary-gait | elsa | fev100 | gait | 1828 | .22( .04), <.01 \*\*\* | .19( .17), =.26 | .02( .03), =.56 |
| pulmonary-gait | hrs | pef | gait | 3034 | .27( .04), <.01 \*\*\* | .10( .32), =.75 | .10( .03), <.01 \*\*\* |
| pulmonary-gait | lasa | pef | gait | 800 | -.36( .06), <.01 \*\*\* | -.40( .09), <.01 \*\*\* | -.03( .03), =.37 |
| pulmonary-gait | map | fev | gait | 309 | .25( .08), <.01 \*\* | -.46( .62), =.45 | -.01( .05), =.90 |
| pulmonary-gait | octo | pef | gait | 132 | -.38( .20), =.06 . | -.79(1.10), =.47 | -.05( .13), =.72 |
| pulmonary-gait | satsa | gait | fev | 265 | -.10( .34), =.76 | -.55( .62), =.38 | .05( .07), =.48 |
| pulmonary-grip | eas | pef | grip | 72 | .04( .45), =.92 | .08(2.22), =.97 | .24( .17), =.15 |
| pulmonary-grip | elsa | grip | fev100 | 2872 | .18( .03), <.01 \*\*\* | .30( .22), =.17 | .02( .03), =.46 |
| pulmonary-grip | hrs | grip | pef | 3034 | .38( .02), <.01 \*\*\* | .34( .17), =.05 \* | .07( .03), <.01 \*\* |
| pulmonary-grip | lasa | grip | pef | 800 | .24( .04), <.01 \*\*\* | .57( .10), <.01 \*\*\* | -.05( .03), =.11 |
| pulmonary-grip | map | fev | grip | 309 | .25( .06), <.01 \*\*\* | -.04( .40), =.91 | -.01( .05), =.78 |
| pulmonary-grip | octo | grip | pef | 138 | .15( .13), =.25 | .10( .91), =.91 | .14( .09), =.12 |
| pulmonary-grip | satsa | grip | fev | 299 | .21( .10), =.04 \* | .74( .45), =.10 . | .15( .04), <.01 \*\*\* |

## female

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| domain | study | process\_a | process\_b |  | Corr(Levels)Est | Corr(Slopes)Est | Corr(Residuals)Est |
| gait-grip | eas | grip | gait | 147 | .17( .17), =.31 | .38( .50), =.44 | .03( .10), =.78 |
| gait-grip | hrs | grip | gait | 4208 | .26( .04), <.01 \*\*\* | -.05( .21), =.82 | .10( .02), <.01 \*\*\* |
| gait-grip | ilse | grip | tug | 224 | -.06( .23), =.80 | .40(1.63), =.80 | .10( .14), =.47 |
| gait-grip | lasa | grip | gait | 782 | -.34( .07), <.01 \*\*\* | -.68(1.60), =.67 | .01( .03), =.82 |
| gait-grip | map | gait | grip | 931 | .30( .05), <.01 \*\*\* | -.46( .31), =.15 | -.01( .03), =.81 |
| gait-grip | nuage | grip | gait | 934 | -.18( .04), <.01 \*\*\* | -.10( .12), =.37 | -.04( .03), =.15 |
| gait-grip | nuage | grip | tug | 934 | -.27( .04), <.01 \*\*\* | -.26( .17), =.13 | -.01( .03), =.67 |
| gait-grip | octo | grip | gait | 270 | -.33( .14), =.02 \* | -.04( .40), =.91 | -.04( .07), =.50 |
| gait-grip | satsa | gait | grip | 366 | -.16( .42), =.69 | -.03( .59), =.96 | -.01( .05), =.91 |
| pulmonary-gait | eas | pef | gait | 150 | .05( .19), =.78 | -.55( .52), =.28 | .10( .12), =.44 |
| pulmonary-gait | elsa | fev100 | gait | 2018 | .26( .03), <.01 \*\*\* | .57( .10), <.01 \*\*\* | -.03( .03), =.40 |
| pulmonary-gait | hrs | pef | gait | 4208 | .34( .04), <.01 \*\*\* | -.23( .21), =.27 | .13( .02), <.01 \*\*\* |
| pulmonary-gait | lasa | pef | gait | 782 | -.23( .13), =.09 . | -.25( .20), =.21 | -.02( .03), =.40 |
| pulmonary-gait | map | fev | gait | 931 | .24( .05), <.01 \*\*\* | -.03( .39), =.94 | .02( .03), =.57 |
| pulmonary-gait | octo | pef | gait | 263 | -.35( .17), =.04 \* | -.58( .40), =.15 | -.02( .09), =.81 |
| pulmonary-gait | satsa | gait | fev | 366 | -.38( .23), =.10 | -.38( .36), =.30 | -.04( .06), =.46 |
| pulmonary-grip | eas | pef | grip | 150 | .29( .15), =.05 . | .03( .80), =.97 | .11( .10), =.26 |
| pulmonary-grip | elsa | grip | fev100 | 3145 | .23( .03), <.01 \*\*\* | .55( .84), =.51 | .02( .02), =.54 |
| pulmonary-grip | hrs | grip | pef | 4208 | .33( .02), <.01 \*\*\* | .58( .17), <.01 \*\*\* | .06( .02), <.01 \*\* |
| pulmonary-grip | lasa | grip | pef | 782 | .30( .07), <.01 \*\*\* | .03(1.49), =.98 | .03( .04), =.43 |
| pulmonary-grip | map | fev | grip | 931 | .13( .04), <.01 \*\* | .16( .37), =.66 | .02( .03), =.53 |
| pulmonary-grip | octo | grip | pef | 270 | .39( .10), <.01 \*\*\* | .34( .40), =.39 | .02( .06), =.68 |
| pulmonary-grip | satsa | grip | fev | 408 | .06( .11), =.58 | .03( .35), =.94 | .15( .04), <.01 \*\*\* |

# Grouped by study

## male

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| domain | study | process\_a | process\_b |  | Corr(Levels)Est | Corr(Slopes)Est | Corr(Residuals)Est |
| gait-grip | eas | grip | gait | 72 | .32( .45), =.48 | .24(2.86), =.93 | .21( .25), =.39 |
| pulmonary-gait | eas | pef | gait | 72 | -.04( .44), =.93 | -.45(1.86), =.81 | .18( .21), =.40 |
| pulmonary-grip | eas | pef | grip | 72 | .04( .45), =.92 | .08(2.22), =.97 | .24( .17), =.15 |
| pulmonary-gait | elsa | fev100 | gait | 1828 | .22( .04), <.01 \*\*\* | .19( .17), =.26 | .02( .03), =.56 |
| pulmonary-grip | elsa | grip | fev100 | 2872 | .18( .03), <.01 \*\*\* | .30( .22), =.17 | .02( .03), =.46 |
| gait-grip | hrs | grip | gait | 3034 | .22( .05), <.01 \*\*\* | .30( .30), =.32 | .06( .04), =.07 . |
| pulmonary-gait | hrs | pef | gait | 3034 | .27( .04), <.01 \*\*\* | .10( .32), =.75 | .10( .03), <.01 \*\*\* |
| pulmonary-grip | hrs | grip | pef | 3034 | .38( .02), <.01 \*\*\* | .34( .17), =.05 \* | .07( .03), <.01 \*\* |
| gait-grip | ilse | grip | tug | 252 | .29( .43), =.51 | .84(1.24), =.50 | -.28( .10), =.01 \*\* |
| gait-grip | lasa | grip | gait | 800 | -.35( .08), <.01 \*\*\* | -.76( .19), <.01 \*\*\* | -.04( .04), =.37 |
| pulmonary-gait | lasa | pef | gait | 800 | -.36( .06), <.01 \*\*\* | -.40( .09), <.01 \*\*\* | -.03( .03), =.37 |
| pulmonary-grip | lasa | grip | pef | 800 | .24( .04), <.01 \*\*\* | .57( .10), <.01 \*\*\* | -.05( .03), =.11 |
| gait-grip | map | gait | grip | 309 | .30( .08), <.01 \*\*\* | .40( .34), =.24 | .01( .06), =.92 |
| pulmonary-gait | map | fev | gait | 309 | .25( .08), <.01 \*\* | -.46( .62), =.45 | -.01( .05), =.90 |
| pulmonary-grip | map | fev | grip | 309 | .25( .06), <.01 \*\*\* | -.04( .40), =.91 | -.01( .05), =.78 |
| gait-grip | nuage | grip | gait | 847 | -.20( .06), <.01 \*\*\* | -.24( .28), =.39 | -.05( .02), =.04 \* |
| gait-grip | nuage | grip | tug | 847 | -.25( .05), <.01 \*\*\* | -.24( .12), =.05 \* | -.04( .02), =.05 . |
| gait-grip | octo | grip | gait | 138 | -.35( .19), =.07 . | -.70( .53), =.19 | -.13( .08), =.11 |
| pulmonary-gait | octo | pef | gait | 132 | -.38( .20), =.06 . | -.79(1.10), =.47 | -.05( .13), =.72 |
| pulmonary-grip | octo | grip | pef | 138 | .15( .13), =.25 | .10( .91), =.91 | .14( .09), =.12 |
| gait-grip | satsa | gait | grip | 265 | -.51( .49), =.30 | -.42( .46), =.37 | -.02( .07), =.74 |
| pulmonary-gait | satsa | gait | fev | 265 | -.10( .34), =.76 | -.55( .62), =.38 | .05( .07), =.48 |
| pulmonary-grip | satsa | grip | fev | 299 | .21( .10), =.04 \* | .74( .45), =.10 . | .15( .04), <.01 \*\*\* |

## female

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| domain | study | process\_a | process\_b |  | Corr(Levels)Est | Corr(Slopes)Est | Corr(Residuals)Est |
| gait-grip | eas | grip | gait | 147 | .17( .17), =.31 | .38( .50), =.44 | .03( .10), =.78 |
| pulmonary-gait | eas | pef | gait | 150 | .05( .19), =.78 | -.55( .52), =.28 | .10( .12), =.44 |
| pulmonary-grip | eas | pef | grip | 150 | .29( .15), =.05 . | .03( .80), =.97 | .11( .10), =.26 |
| pulmonary-gait | elsa | fev100 | gait | 2018 | .26( .03), <.01 \*\*\* | .57( .10), <.01 \*\*\* | -.03( .03), =.40 |
| pulmonary-grip | elsa | grip | fev100 | 3145 | .23( .03), <.01 \*\*\* | .55( .84), =.51 | .02( .02), =.54 |
| gait-grip | hrs | grip | gait | 4208 | .26( .04), <.01 \*\*\* | -.05( .21), =.82 | .10( .02), <.01 \*\*\* |
| pulmonary-gait | hrs | pef | gait | 4208 | .34( .04), <.01 \*\*\* | -.23( .21), =.27 | .13( .02), <.01 \*\*\* |
| pulmonary-grip | hrs | grip | pef | 4208 | .33( .02), <.01 \*\*\* | .58( .17), <.01 \*\*\* | .06( .02), <.01 \*\* |
| gait-grip | ilse | grip | tug | 224 | -.06( .23), =.80 | .40(1.63), =.80 | .10( .14), =.47 |
| gait-grip | lasa | grip | gait | 782 | -.34( .07), <.01 \*\*\* | -.68(1.60), =.67 | .01( .03), =.82 |
| pulmonary-gait | lasa | pef | gait | 782 | -.23( .13), =.09 . | -.25( .20), =.21 | -.02( .03), =.40 |
| pulmonary-grip | lasa | grip | pef | 782 | .30( .07), <.01 \*\*\* | .03(1.49), =.98 | .03( .04), =.43 |
| gait-grip | map | gait | grip | 931 | .30( .05), <.01 \*\*\* | -.46( .31), =.15 | -.01( .03), =.81 |
| pulmonary-gait | map | fev | gait | 931 | .24( .05), <.01 \*\*\* | -.03( .39), =.94 | .02( .03), =.57 |
| pulmonary-grip | map | fev | grip | 931 | .13( .04), <.01 \*\* | .16( .37), =.66 | .02( .03), =.53 |
| gait-grip | nuage | grip | gait | 934 | -.18( .04), <.01 \*\*\* | -.10( .12), =.37 | -.04( .03), =.15 |
| gait-grip | nuage | grip | tug | 934 | -.27( .04), <.01 \*\*\* | -.26( .17), =.13 | -.01( .03), =.67 |
| gait-grip | octo | grip | gait | 270 | -.33( .14), =.02 \* | -.04( .40), =.91 | -.04( .07), =.50 |
| pulmonary-gait | octo | pef | gait | 263 | -.35( .17), =.04 \* | -.58( .40), =.15 | -.02( .09), =.81 |
| pulmonary-grip | octo | grip | pef | 270 | .39( .10), <.01 \*\*\* | .34( .40), =.39 | .02( .06), =.68 |
| gait-grip | satsa | gait | grip | 366 | -.16( .42), =.69 | -.03( .59), =.96 | -.01( .05), =.91 |
| pulmonary-gait | satsa | gait | fev | 366 | -.38( .23), =.10 | -.38( .36), =.30 | -.04( .06), =.46 |
| pulmonary-grip | satsa | grip | fev | 408 | .06( .11), =.58 | .03( .35), =.94 | .15( .04), <.01 \*\*\* |

# Session Information

For the sake of documentation and reproducibility, the current report was rendered on a system using the following software.

Report rendered by koval\_000 at 2017-07-18, 15:29 -0400

R version 3.3.2 (2016-10-31)  
Platform: x86\_64-w64-mingw32/x64 (64-bit)  
Running under: Windows >= 8 x64 (build 9200)  
  
locale:  
[1] LC\_COLLATE=English\_United States.1252 LC\_CTYPE=English\_United States.1252 LC\_MONETARY=English\_United States.1252  
[4] LC\_NUMERIC=C LC\_TIME=English\_United States.1252   
  
attached base packages:  
[1] grid stats graphics grDevices utils datasets methods base   
  
other attached packages:  
[1] dplyr\_0.5.0 forestplot\_1.7 checkmate\_1.8.2 ggplot2\_2.2.1   
[5] knitr\_1.15.1 IalsaSynthesis\_0.1.8.9000 MplusAutomation\_0.6-4 magrittr\_1.5   
  
loaded via a namespace (and not attached):  
 [1] Rcpp\_0.12.9 plyr\_1.8.4 highr\_0.6 tools\_3.3.2 boot\_1.3-18 digest\_0.6.12   
 [7] jsonlite\_1.2 evaluate\_0.10 tibble\_1.2 gtable\_0.2.0 lattice\_0.20-34 texreg\_1.36.18   
[13] DBI\_0.5-1 yaml\_2.1.14 proto\_1.0.0 coda\_0.19-1 stringr\_1.1.0 htmlwidgets\_0.8   
[19] rprojroot\_1.2 DT\_0.2 R6\_2.2.0 plotrix\_3.6-4 gsubfn\_0.6-6 rmarkdown\_1.3   
[25] pander\_0.6.0 tidyr\_0.6.1 readr\_1.0.0 scales\_0.4.1 backports\_1.0.5 htmltools\_0.3.5   
[31] rsconnect\_0.7 assertthat\_0.1 testit\_0.6 xtable\_1.8-2 colorspace\_1.3-2 stringi\_1.1.2   
[37] lazyeval\_0.2.0 munsell\_0.4.3