lme_mods

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Packages & Setup

```
# install.packages(c("tidyverse","purrr","R.matlab","readxl","dplyr"))
library(readxl);
library(purrr)
library(tidyverse);
```

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.4     v readr     2.1.5
## v forcats   1.0.0     v stringr   1.5.1
## v ggplot2   3.5.0     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.1
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

```
library(tibble)
library(knitr);
library(gtsummary)
library(kableExtra)
```

```
##
## Attaching package: 'kableExtra'
##
## The following object is masked from 'package:dplyr':
##
##     group_rows
```

```
library(lme4)
```

```
## Loading required package: Matrix
##
## Attaching package: 'Matrix'
##
## The following objects are masked from 'package:tidyr':
##
##     expand, pack, unpack
```

GTSUMMARY THEME

```
# my_theme <-
#   list(
#     "tbl_summary-str:default_con_type" = "continuous2",
#     "tbl_summary-str:continuous_stat" = c(
#       "{median} ({p25} - {p75})",
#       "{mean} ({sd})",
#       "{min} - {max}"
#     ),
#     "tbl_summary-str:categorical_stat" = "{n} / {N} ({p}%)",
#     "style_number-arg:big.mark" = "",
#     "tbl_summary-fn:percent_fun" = function(x) style_percent(x, digits = 3)
#   )
# my_theme <-
#   list()
# gtsummary::set_gtsummary_theme(my_theme)
gtsummary::set_gtsummary_theme(theme_gtsummary_journal("jama"))
```

```
## Setting theme `JAMA`
## Setting theme `JAMA`
```

```
# reset_gtsummary_theme()
```

load table

```
# excel_dir <-"M:/jsalminen/GitHub/par_EEGProcessing/src/_data/MIM_dataset/_studies/04162024_MIM_YAOAN8
excel_dir <-"M:/jsalminen/GitHub/par_EEGProcessing/src/_data/MIM_dataset/_studies/04232024_MIM_YAOAN89_a
eegt <- read_excel(excel_dir,sheet="Sheet1")
```

get unique entries

```
clusters = unique(eegt$cluster_id);
subjects = unique(eegt$subj_char);
groups = unique(eegt$group_char);
kin_measures = c('mean_APexc_COV','mean_APexc_mean','mean_MLexc_COV','mean_MLexc_mean','mean_StepDur','m
eeg_measures = c('theta_avg_power','alpha_avg_power','beta_avg_power','aperiodic_exp','aperiodic_offset
```

get speeds only

```
eegt <- filter_at(eegt,vars('cond_char'), any_vars(. %in% c('0.25','0.5','0.75','1.0')))
flat_speeds = unique(eegt$cond_char)
eegt$cond_char <- as.numeric(eegt$cond_char)
eegt$speed_cond_num <- as.numeric(eegt$cond_char)
eegt <- mutate(eegt,across(c('subj_char'), factor))
```

Cluster:	3																															
	APerc COV			APerc			MLeng COV			MLeng			Step Dur			UDens COV			UDens			Stance Dur			GaitCycle Dur			Peak UpDown Vel		
Characteristic	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**
(Intercept)	18 (16 to 20)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	9.9 (8.5 to 12)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 23)	<0.001	<0.001	0.01 (0.00 to 0.01)	<0.001	<0.001	2.0 (2.0 to 2.1)	<0.001	<0.001	2.8 (2.6 to 2.9)	<0.001	<0.001	0.01 (0.01 to 0.01)	0.53	0.53
speed_cond_mm	-4.4 (-6.6 to -2.3)	<0.001	<0.001	-0.03 (-0.03 to -0.02)	<0.001	<0.001	7.0 (5.3 to 8.8)	<0.001	<0.001	-0.08 (-0.09 to -0.08)	<0.001	<0.001	-0.72 (-0.80 to -0.65)	<0.001	<0.001	-15 (-16 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.2 (-1.3 to -1.1)	<0.001	<0.001	-1.5 (-1.6 to -1.3)	<0.001	<0.001	0.40 (0.38 to 0.41)	<0.001	<0.001
group_char		<0.001	<0.001		<0.001	<0.001		0.94	0.94		0.41	0.41		<0.001	<0.001		0.20	0.20		0.85	0.85		<0.001	<0.001		<0.001	<0.001		0.027	0.040
H1000's																														
H2000's	7.0 (4.4 to 9.7)			-0.01 (-0.02 to 0.00)			-0.90 (-2.5 to 1.8)			0.01 (-0.01 to 0.02)			-0.16 (-0.22 to -0.10)			1.3 (-0.36 to 2.8)			0.00 (0.00 to 0.00)			-0.24 (-0.33 to -0.15)			-0.33 (-0.45 to -0.21)			0.02 (0.00 to 0.05)		
H3000's	10 (7.5 to 13)			-0.02 (-0.02 to -0.01)			-0.23 (-2.4 to 1.9)			0.00 (-0.02 to 0.01)			-0.26 (-0.32 to -0.20)			1.1 (-0.40 to 2.7)			0.00 (0.00 to 0.00)			-0.37 (-0.46 to -0.29)			-0.53 (-0.65 to -0.41)			0.04 (0.01 to 0.07)		
subj_char_sd __(Intercept)	2.7 (NA to NA)			0.01 (NA to NA)			3.2 (NA to NA)			0.02 (NA to NA)			0.95 (NA to NA)			2.9 (NA to NA)			0.00 (NA to NA)			0.05 (NA to NA)			0.10 (NA to NA)			0.04 (NA to NA)		
Residual_sd __Observation	4.5 (NA to NA)			0.01 (NA to NA)			3.7 (NA to NA)			0.02 (NA to NA)			0.15 (NA to NA)			2.5 (NA to NA)			0.00 (NA to NA)			0.26 (NA to NA)			0.31 (NA to NA)			0.04 (NA to NA)		

[1] CI = Confidence Interval
[2] False discovery rate correction for multiple testing

Cluster:	4																															
	APerc COV			APerc			MLeng COV			MLeng			Step Dur			UDens COV			UDens			Stance Dur			GaitCycle Dur			Peak UpDown Vel		
Characteristic	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**
(Intercept)	18 (16 to 21)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	11 (9.8 to 12)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 23)	<0.001	<0.001	0.01 (0.01 to 0.01)	<0.001	<0.001	2.0 (1.9 to 2.1)	<0.001	<0.001	2.7 (2.6 to 2.9)	<0.001	<0.001	0.01 (0.02 to 0.02)	0.73	0.78
speed_cond_mm	-3.9 (-5.9 to -2.0)	<0.001	<0.001	-0.03 (-0.04 to -0.03)	<0.001	<0.001	6.2 (4.5 to 7.9)	<0.001	<0.001	-0.08 (-0.09 to -0.07)	<0.001	<0.001	-0.73 (-0.80 to -0.67)	<0.001	<0.001	-15 (-16 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.2 (-1.4 to -1.1)	<0.001	<0.001	-1.5 (-1.6 to -1.3)	<0.001	<0.001	0.38 (0.36 to 0.39)	<0.001	<0.001
group_char		<0.001	<0.001		<0.001	<0.001		0.75	0.75		0.26	0.26		<0.001	<0.001		0.27	0.27		0.72	0.72		<0.001	<0.001		<0.001	<0.001		0.23	0.31
H1000's																														
H2000's	6.1 (3.2 to 8.9)			-0.01 (-0.01 to 0.00)			-0.68 (-3.2 to 1.8)			0.01 (0.00 to 0.02)			-0.14 (-0.20 to -0.08)			0.39 (-1.4 to 2.2)			0.00 (0.00 to 0.00)			-0.29 (-0.39 to -0.18)			-0.28 (-0.40 to -0.15)			0.02 (-0.01 to 0.05)		
H3000's	8.7 (6.1 to 11)			-0.01 (-0.02 to -0.01)			-0.81 (-3.0 to 1.4)			0.00 (-0.01 to 0.02)			-0.22 (-0.28 to -0.17)			1.1 (-0.50 to 2.6)			0.00 (0.00 to 0.00)			-0.32 (-0.40 to -0.24)			-0.45 (-0.56 to -0.34)			0.02 (-0.01 to 0.05)		
subj_char_sd __(Intercept)	3.8 (NA to NA)			0.01 (NA to NA)			3.2 (NA to NA)			0.02 (NA to NA)			0.96 (NA to NA)			2.3 (NA to NA)			0.00 (NA to NA)			0.05 (NA to NA)			0.11 (NA to NA)			0.04 (NA to NA)		
Residual_sd __Observation	4.3 (NA to NA)			0.01 (NA to NA)			3.9 (NA to NA)			0.02 (NA to NA)			0.15 (NA to NA)			2.9 (NA to NA)			0.00 (NA to NA)			0.25 (NA to NA)			0.29 (NA to NA)			0.04 (NA to NA)		

[1] CI = Confidence Interval
[2] False discovery rate correction for multiple testing

get terrains only (if applicable)

```
# eegt <- filter_at(eegt,vars('cond_char'), any_vars(. %in% c('flat','low','med','high')))
# eegt <- filter_at(eegt,vars('cond_char'), any_vars(. %in% c('high')))
# eegt$terr_ord_speed <- cut(eegt$speed_ms, 4, ordered = TRUE)
```

convert speeds to ordered & groups to factors

```
eegt <- mutate(eegt,across(c('group_char'), factor))
eegt$speed_ord <- cut(eegt$cond_char, 4, ordered = TRUE)
eegt <- mutate(eegt,across(c('cond_char'), factor))
head(eegt)
```

```
## # A tibble: 6 x 139
##   speed_ms subj_id subj_cl_ind subj_char comp_id design_id cond_id cond_char
##      <dbl> <chr>          <dbl> <fct>        <dbl> <chr>     <chr>   <fct>
## 1      1.2  5                  1 H1011            4 2         1       0.25
## 2     0.69 8                  2 H1017            3 2         1       0.25
## 3     0.51 10                 3 H1019            4 2         1       0.25
## 4     0.76 11                 4 H1020            6 2         1       0.25
## 5     0.59 12                 5 H1022            6 2         1       0.25
## 6      0.8  15                 6 H1027            3 2         1       0.25
## # i 131 more variables: group_id <chr>, cluster_id <chr>, aperiodic_exp <dbl>,
## #   aperiodic_offset <dbl>, central_freq_1 <dbl>, central_freq_2 <dbl>,
## #   central_freq_3 <dbl>, power_1 <dbl>, power_2 <dbl>, power_3 <dbl>,
## #   r_squared <dbl>, theta_avg_power <dbl>, alpha_avg_power <dbl>,
## #   beta_avg_power <dbl>, theta_1 <dbl>, theta_2 <dbl>, theta_3 <dbl>,
## #   theta_4 <dbl>, theta_5 <dbl>, theta_6 <dbl>, theta_7 <dbl>, theta_8 <dbl>,
## #   `alpha_ 1` <dbl>, `alpha_ 2` <dbl>, `alpha_ 3` <dbl>, `alpha_ 4` <dbl>, ...
```

```
eegt$group_speed_code = paste(eegt$group_char,eegt$cond_char,sep="_")
```

LME KIN ~ 1+speed+group

Cluster:	5																															
	APerc COV			APerc			MLeng COV			MLeng			Step Dur			UDens COV			UDens			Stance Dur			GaitCycle Dur			Peak UpDown Vel		
Characteristic	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**	**Beta (95% CI)**	**p-value**	**q-value**
(Intercept)	18 (16 to 20)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	11 (9.8 to 12)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 23)	<0.001	<0.001	0.01 (0.00 to 0.01)	<0.001	<0.001	2.0 (2.0 to 2.1)	<0.001	<0.001	2.8 (2.7 to 2.9)	<0.001	<0.001	0.01 (0.02 to 0.02)	0.83	0.83
speed_cond_mm	-4.2 (-6.3 to -2.2)	<0.001	<0.001	-0.03 (-0.04 to -0.03)	<0.001	<0.001	7.1 (5.3 to 9.0)	<0.001	<0.001	-0.08 (-0.09 to -0.08)	<0.001	<0.001	-0.74 (-0.81 to -0.68)	<0.001	<0.001	-15 (-17 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.3 (-1.4 to -1.1)	<0.001	<0.001	-1.5 (-1.6 to -1.4)	<0.001	<0.001	0.38 (0.36 to 0.39)	<0.001	<0.001
group_char		<0.001	<0.001		<0.001	<0.001		0.59	0.59		0.10	0.10		<0.001	<0.001		0.067	0.067		0.67	0.67		<0.001	<0.001		<0.001	<0.001		0.14	0.21
H1000's																														
H2000's	6.1 (3.6 to 8.7)			-0.01 (-0.01 to 0.00)			-1.2 (-3.7 to 1.3)			0.02 (0.00 to 0.03)			-0.16 (-0.23 to -0.10)			1.4 (-0.21 to 3.1)			0.00 (0.00 to 0.00)			-0.24 (-0.32 to -0.15)			-0.31 (-0.42 to -0.20)			0.02 (0.00 to 0.05)		
H3000's	8.8 (6.4 to 11)			-0.01 (-0.02 to -0.01)			-0.90 (-3.2 to 1.4)			0.01 (-0.01 to 0.02)			-0.22 (-0.27 to -0.17)			1.7 (0.13 to 3.2)			0.00 (0.00 to 0.00)			-0.36 (-0.38 to -0.33)			-0.48 (-0.55 to -0.34)			0.02 (0.00 to 0.04)		
subj_char_sd __(Intercept)	3.3 (NA to NA)			0.01 (NA to NA)			3.2 (NA to NA)			0.02 (NA to NA)			0.94 (NA to NA)			2.0 (NA to NA)			0.00 (NA to NA)			0.02 (NA to NA)			0.08 (NA to NA)			0.03 (NA to NA)		
Residual_sd __Observation	4.4 (NA to NA)			0.01 (NA to NA)			4.1 (NA to NA)			0.02 (NA to NA)			0.15 (NA to NA)			2.9 (NA to NA)			0.00 (NA to NA)			0.25 (NA to NA)			0.30 (NA to NA)			0.03 (NA to NA)		

[1] CI = Confidence Interval
[2] False discovery rate correction for multiple testing

Cluster:	6																																							
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	18 (16 to 20)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	9.7 (8.2 to 11)	<0.001	<0.001	0.14 (0.13 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 23)	<0.001	<0.001	0.01 (0.01 to 0.01)	<0.001	<0.001	2.0 (1.9 to 2.1)	<0.001	<0.001	2.7 (2.6 to 2.8)	<0.001	<0.001	-0.01 (-0.03 to 0.01)	0.55	0.55								
speed_cond_sum	-3.7 (-5.5 to -1.8)	<0.001	<0.001	-0.03 (-0.03 to -0.03)	<0.001	<0.001	6.7 (5.4 to 8.0)	<0.001	<0.001	-0.09 (-0.09 to -0.08)	<0.001	<0.001	-0.72 (-0.78 to -0.67)	<0.001	<0.001	-15 (-16 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.2 (-1.3 to -1.1)	<0.001	<0.001	-1.8 (-1.8 to -1.7)	<0.001	<0.001	0.38 (0.37 to 0.40)	<0.001	<0.001								
group_clear		<0.001	<0.001		<0.001	<0.001		0.81	0.81		0.27	0.27		<0.001	<0.001		0.073	0.073		0.91	0.91		<0.001	<0.001		<0.001	<0.001		0.069	0.10								
H1000's																																							
H2000's	6.9 (4.3 to 9.4)			-0.01 (-0.02 to -0.01)			0.52 (-1.3 to 2.3)			0.01 (0.00 to 0.02)			-0.17 (-0.22 to -0.12)			1.1 (-0.30 to 2.5)			0.00 (0.00 to 0.00)			-0.24 (-0.31 to -0.16)			-0.34 (-0.43 to -0.24)			0.03 (0.00 to 0.05)											
H3000's	9.1 (6.7 to 11)			-0.01 (-0.02 to -0.01)			-0.01 (-1.7 to 1.7)			0.00 (-0.01 to 0.01)			-0.22 (-0.28 to -0.16)			1.5 (0.18 to 2.8)			0.00 (0.00 to 0.01)			-0.24 (-0.30 to -0.20)			-0.46 (-0.55 to -0.37)			0.02 (0.00 to 0.05)											
subj_clust.sd__(Intercept)	3.8 (NA to NA)			0.01 (NA to NA)			2.6 (NA to NA)			0.02 (NA to NA)			0.05 (NA to NA)			2.6 (NA to NA)			0.00 (NA to NA)			0.04 (NA to NA)			0.08 (NA to NA)			0.04 (NA to NA)											
Residual.sd__Observation	4.6 (NA to NA)			0.01 (NA to NA)			3.7 (NA to NA)			0.02 (NA to NA)			0.14 (NA to NA)			2.8 (NA to NA)			0.00 (NA to NA)			0.24 (NA to NA)			0.28 (NA to NA)			0.04 (NA to NA)											

[1] CI = Confidence Interval

[2] False discovery rate correction for multiple testing

Cluster:	7																																						
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	18 (16 to 20)	<0.001	<0.001	0.08 (0.08 to 0.09)	<0.001	<0.001	9.3 (7.7 to 11)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 23)	<0.001	<0.001	0.01 (0.01 to 0.01)	<0.001	<0.001	2.0 (2.0 to 2.1)	<0.001	<0.001	2.3 (2.2 to 2.3)	<0.001	<0.001	0.00 (-0.02 to 0.02)	0.92	0.92								
speed_cond_sum	-3.6 (-5.6 to -1.6)	<0.001	<0.001	-0.03 (-0.04 to -0.03)	<0.001	<0.001	6.7 (5.1 to 8.3)	<0.001	<0.001	-0.09 (-0.09 to -0.08)	<0.001	<0.001	-0.76 (-0.82 to -0.70)	<0.001	<0.001	-15 (-16 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.3 (-1.4 to -1.2)	<0.001	<0.001	-1.5 (-1.6 to -1.4)	<0.001	<0.001	0.37 (0.36 to 0.39)	<0.001	<0.001								
group_clear		<0.001	<0.001		<0.001	<0.001		0.61	0.61		0.55	0.55		<0.001	<0.001		0.087	0.087		0.95	0.95		<0.001	<0.001		<0.001	<0.001		0.30	0.45								
H1000's																																							
H2000's	5.6 (2.8 to 8.4)			-0.01 (-0.01 to 0.00)			0.93 (-1.2 to 3.0)			0.01 (-0.01 to 0.02)			-0.12 (-0.18 to -0.07)			0.76 (-0.92 to 2.5)			0.00 (0.00 to 0.00)			-0.18 (-0.26 to -0.10)			-0.25 (-0.35 to -0.14)			0.02 (-0.01 to 0.04)											
H3000's	8.8 (6.3 to 11)			-0.01 (-0.02 to -0.01)			0.77 (-1.1 to 2.6)			0.00 (-0.01 to 0.01)			-0.21 (-0.26 to -0.16)			1.7 (0.19 to 3.2)			0.00 (0.00 to 0.00)			-0.20 (-0.26 to -0.12)			-0.42 (-0.51 to -0.32)			0.02 (-0.01 to 0.04)											
subj_clust.sd__(Intercept)	3.7 (NA to NA)			0.03 (NA to NA)			2.7 (NA to NA)			0.02 (NA to NA)			0.05 (NA to NA)			2.3 (NA to NA)			0.00 (NA to NA)			0.04 (NA to NA)			0.10 (NA to NA)			0.04 (NA to NA)											
Residual.sd__Observation	4.6 (NA to NA)			0.01 (NA to NA)			3.9 (NA to NA)			0.02 (NA to NA)			0.14 (NA to NA)			2.7 (NA to NA)			0.00 (NA to NA)			0.24 (NA to NA)			0.27 (NA to NA)			0.03 (NA to NA)											

[1] CI = Confidence Interval

[2] False discovery rate correction for multiple testing

Cluster:	8																																						
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	19 (18 to 20)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	10 (8.7 to 12)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 24)	<0.001	<0.001	0.01 (0.01 to 0.01)	<0.001	<0.001	2.0 (1.9 to 2.1)	<0.001	<0.001	2.7 (2.6 to 2.8)	<0.001	<0.001	-0.01 (-0.03 to 0.01)	0.42	0.42								
speed_cond_sum	-4.5 (-6.6 to -2.4)	<0.001	<0.001	-0.03 (-0.03 to -0.02)	<0.001	<0.001	7.1 (5.5 to 8.8)	<0.001	<0.001	-0.09 (-0.10 to -0.08)	<0.001	<0.001	-0.71 (-0.78 to -0.64)	<0.001	<0.001	-16 (-17 to -15)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.2 (-1.3 to -1.1)	<0.001	<0.001	-1.6 (-1.6 to -1.5)	<0.001	<0.001	0.39 (0.37 to 0.40)	<0.001	<0.001								
group_clear		<0.001	<0.001		<0.001	<0.001		0.45	0.45		0.21	0.21		<0.001	<0.001		0.017	0.017		0.087	0.087		<0.001	<0.001		<0.001	<0.001		0.003	0.004								
H1000's																																							
H2000's	5.6 (3.1 to 8.2)			-0.01 (-0.02 to -0.01)			-0.67 (-2.5 to 1.1)			0.01 (0.00 to 0.02)			-0.16 (-0.21 to -0.10)			1.0 (-0.27 to 2.3)			0.00 (0.00 to 0.00)			-0.23 (-0.31 to -0.15)			-0.31 (-0.42 to -0.21)			0.02 (-0.01 to 0.05)											
H3000's	10 (7.7 to 13)			-0.01 (-0.02 to -0.01)			0.51 (-1.3 to 2.3)			0.01 (-0.01 to 0.02)			-0.24 (-0.29 to -0.18)			1.9 (0.69 to 3.3)			0.00 (0.00 to 0.01)			-0.32 (-0.41 to -0.24)			-0.47 (-0.58 to -0.36)			0.05 (0.02 to 0.08)											
subj_clust.sd__(Intercept)	4.2 (NA to NA)			0.01 (NA to NA)			2.9 (NA to NA)			0.02 (NA to NA)			0.04 (NA to NA)			1.6 (NA to NA)			0.00 (NA to NA)			0.04 (NA to NA)			0.08 (NA to NA)			0.04 (NA to NA)											
Residual.sd__Observation	4.4 (NA to NA)			0.01 (NA to NA)			3.7 (NA to NA)			0.02 (NA to NA)			0.14 (NA to NA)			2.4 (NA to NA)			0.00 (NA to NA)			0.24 (NA to NA)			0.29 (NA to NA)			0.03 (NA to NA)											

[1] CI = Confidence Interval

[2] False discovery rate correction for multiple testing

Cluster:	9																																						
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	19 (17 to 20)	<0.001	<0.001	0.08 (0.07 to 0.09)	<0.001	<0.001	9.6 (7.9 to 11)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 24)	<0.001	<0.001	0.01 (0.01 to 0.01)	<0.001	<0.001	2.0 (2.0 to 2.1)	<0.001	<0.001	2.3 (2.2 to 2.3)	<0.001	<0.001	0.01 (-0.03 to 0.03)	0.33	0.33								
speed_cond_sum	-4.3 (-6.9 to -2.5)	<0.001	<0.001	-0.03 (-0.04 to -0.03)	<0.001	<0.001	7.1 (5.5 to 8.8)	<0.001	<0.001	-0.09 (-0.10 to -0.08)	<0.001	<0.001	-0.75 (-0.81 to -0.68)	<0.001	<0.001	-15 (-16 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.3 (-1.4 to -1.2)	<0.001	<0.001	-1.5 (-1.6 to -1.4)	<0.001	<0.001	0.39 (0.37 to 0.40)	<0.001	<0.001								
group_clear		<0.001	<0.001		<0.001	<0.001		0.58	0.58		0.60	0.60		<0.001	<0.001		0.040	0.040		0.48	0.48		<0.001	<0.001		<0.001	<0.001		0.011	0.016								
H1000's																																							
H2000's	6.6 (4.5 to 8.7)			-0.01 (-0.02 to -0.01)			-1.0 (-3.1 to 1.0)			0.01 (-0.01 to 0.02)			-0.17 (-0.21 to -0.12)			0.96 (-0.32 to 2.2)			0.00 (0.00 to 0.00)			-0.24 (-0.31 to -0.18)			-0.33 (-0.43 to -0.23)			0.02 (0.00 to 0.05)											
H3000's	8.5 (6.3 to 11)			-0.01 (-0.02 to -0.01)			-0.84 (-2.6 to 1.2)			0.00 (-0.01 to 0.01)			-0.23 (-0.28 to -0.18)			1.7 (0.36 to 3.0)			0.00 (0.00 to 0.00)			-0.32 (-0.40 to -0.24)			-0.46 (-0.56 to -0.36)			0.04 (0.01 to 0.07)											
subj_clust.sd__(Intercept)	2.8 (NA to NA)			0.01 (NA to NA)			2.8 (NA to NA)			0.02 (NA to NA)			0.03 (NA to NA)			1.6 (NA to NA)			0.00 (NA to NA)			0.00 (NA to NA)			0.06 (NA to NA)			0.04 (NA to NA)											
Residual.sd__Observation	3.8 (NA to NA)			0.01 (NA to NA)			3.5 (NA to NA)			0.01 (NA to NA)			0.15 (NA to NA)			2.6 (NA to NA)			0.00 (NA to NA)			0.25 (NA to NA)			0.30 (NA to NA)			0.03 (NA to NA)											

[1] CI = Confidence Interval

[2] False discovery rate correction for multiple testing

Cluster:	10																																						
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	18 (16 to 20)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	7.5 (5.9 to 9.1)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 23)	<0.001	<0.001	0.01 (0.01 to 0.01)	<0.001	<0.001	2.0 (2.0 to 2.1)	<0.001	<0.001	2.3 (2.2 to 2.3)	<0.001	<0.001	0.01 (-0.03 to 0.03)	0.33	0.33								
speed_cond_sum	-4.2 (-6.2 to -2.2)	<0.001	<0.001	-0.03 (-0.04 to -0.03)	<0.001	<0.001	7.5 (5.9 to 9.1)	<0.001	<0.001	-0.09 (-0.10 to -0.08)	<0.001	<0.001	-0.75 (-0.81 to -0.68)	<0.001	<0.001	-15 (-16 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.3 (-1.4 to -1.2)	<0.001	<0.001	-1.5 (-1.6 to -1.4)	<0.001	<0.001	0.39 (0.37 to 0.40)	<0.001	<0.001								
group_clear		<0.001	<0.001		<0.001	<0.001		0.89	0.89		0.26	0.26		<0.001	<0.001		0.24	0.24		0.41	0.41		<0.001	<0.001		<0.001	<0.001		0.008	0.012								
H1000's																																							
H2000's	6.6 (4.3 to 8.9)			-0.01 (-0.01 to 0.00)			-0.37 (-2.1 to 1.2)			0.01 (0.00 to 0.02)			-0.15 (-0.21 to -0.10)			1.2 (-0.28 to 2.7)			0.00 (0.00 to 0.00)			-0.21 (-0.29 to -0.13)			-0.30 (-0.41 to -0.20)			0.03 (0.01 to 0.05)											
H3000's	9.4 (6.9 to 12)			-0.02 (-0.02 to -0.01)			-0.50 (-2.2 to 1.2)			0.00 (-0.01 to 0.01)			-0.25 (-0.31 to -0.19)			0.92 (-0.65 to 2.5)			0.00 (0.00 to 0.00)			-0.35 (-0.43 to -0.26)			-0.50 (-0.61 to -0.39)			0.03 (0.01 to 0.05)											
subj_clust.sd__(Intercept)	3.2 (NA to NA)			0.01 (NA to NA)			3.0 (NA to NA)			0.02 (NA to NA)			0.05 (NA to NA)			2.2 (NA to NA)			0.00 (NA to NA)			0.06 (NA to NA)			0.13 (NA to NA)			0.03 (NA to NA)											
Residual.sd__Observation	4.4 (NA to NA)			0.01 (NA to NA)			3.5 (NA to NA)			0.02 (NA to NA)			0.14 (NA to NA)			2.5 (NA to NA)			0.00 (NA to NA)			0.25 (NA to NA)			0.30 (NA to NA)			0.03 (NA to NA)											

[1] CI = Confidence Interval

[2] False discovery rate correction for multiple testing

Cluster:	11																																						
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	18 (15 to 20)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	11 (9.3 to 13)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	21 (20 to 22)	<0.001	<0.001	0.01 (0.01 to 0.01)	<0.001	<0.001	2.0 (1.9 to 2.1)	<0.001	<0.001	2.4 (2.3 to 2.5)	<0.001	<0.001	0.00 (-0.02 to 0.03)	0.59	0.59								
speed_cond_sum	-3.8 (-6.1 to -1.4)	0.002	0.002	-0.03 (-0.04 to -0.03)	<0.001	<0.001	6.7 (4.3 to 8.2)	<0.001	<0.001	-0.09 (-0.09 to -0.08)	<0.001	<0.001	-0.75 (-0.82 to -0.67)	<0.001	<0.001	-15 (-16 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.2 (-1.4 to -1.1)	<0.001	<0.001	-1.5 (-1.6 to -1.3)	<0.001	<0.001	0.38 (0.36 to 0.40)	<0.001	<0.001								
group_clear		<0.001	<0.001		0.002	0.002		0.53	0.53		0.023	0.023		<0.001	<0.001		0.065	0.065		0.88	0.88		<0.001	<0.001		0.078	0.078		0.015	0.027								
H1000's																																							
H2000's	6.0 (3.1 to 9.0)			-0.01 (-0.01 to 0.00)			-1.5 (-4.1 to 1.1)			0.02 (0.00 to 0.03)			-0.16 (-0.22 to -0.10)			1.1 (-0.01 to 2.9)			0.00 (0.00 to 0.00)			-0.23 (-0.31 to -0.14)			-0.32 (-0.44 to -0.20)			0.02 (-0.01 to 0.05)											
H3000's	11 (8.2 to 14)			-0.01 (-0.02 to 0.00)			-0.33 (-2.8 to 2.2)			0.02 (0.00 to 0.03)			-0.22 (-0.28 to -0.16)			2.0 (0.31 to 3.7)			0.00 (0.00 to 0.00)			-0.31 (-0.39 to -0.22)			-0.44 (-0.56 to -0.33)			0.02 (0.00 to 0.05)											
subj_clust.sd__(Intercept)	5.7 (NA to NA)			0.01 (NA to NA)			3.1 (NA to NA)			0.02 (NA to NA)			0.04 (NA to NA)			2.9 (NA to NA)			0.00 (NA to NA)			0.04 (NA to NA)			0.08 (NA to NA)			0.04 (NA to NA)											
Residual.sd__Observation	4.5 (NA to NA)			0.01 (NA to NA)			3.7 (NA to NA)			0.01 (NA to NA)			0.14 (NA to NA)			2.7 (NA to NA)			0.00 (NA to NA)			0.24 (NA to NA)			0.29 (NA to NA)			0.03 (NA to NA)											

[1] CI = Confidence Interval

[2] False discovery rate correction for multiple testing

Cluster:	12																																						
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	20 (17 to 22)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	11 (8.8 to 13)	<0.001	<0.001	0.13 (0.12 to 0.15)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (21 to 24)	<0.001	<0.001	0.00 (0.00 to 0.01)	<0.001	<0.001	2.0 (1.9 to 2.1)	<0.001	<0.001	2.7 (2.6 to 2.8)	<0.001	<0.001	-0.02 (-0.04 to 0.01)	0.14	0.14								
speed_cond_sum	-5.0 (-7.5 to -2.6)	<0.001	<0.001	-0.03 (-0.04 to -0.02)	<0.001	<0.001	6.9 (4.9 to 7.9)	<0.001	<0.001	-0.09 (-0.09 to -0.08)	<0.001	<0.001	-0.72 (-0.79 to -0.65)	<0.001	<0.001	-15 (-17 to -14)	<0.001	<0.001	0.03 (0.03 to 0.03)	<0.001	<0.001	-1.2 (-1.3 to -1.1)	<0.001	<0.001	-1.4 (-1.6 to -1.3)	<0.001	<0.001	0.40 (0.38 to 0.42)	<0.001	<0.001								
group_clear		<0.001	<0.001		<0.001	<0.001		0.36	0.36		0.59	0.59		<0.001	<0.001		0.74	0.74		0.078	0.078		<0.001	<0.001		<0.001	<0.001		0.015	0.027								
H1000's																																							
H2000's	5.1 (2.0 to 8.2)			-0.01 (-0.02 to -0.01)			-1.7 (-4.0 to 0.70)			0.01 (-0.01 to 0.02)			-0.16 (-0.22 to -0.10)			0.58 (-1.2 to 2.3)			0.00 (0.00 to 0.01)			-0.23 (-0.32 to -0.15)			-0.33 (-0.44 to -0.21)			0.03 (0.00 to 0.07)											
H3000's	8.7 (6.0 to 12)			-0.01 (-0.02 to -0.01)			-0.32 (-2.5 to 1.8)			0.01 (-0.01 to 0.02)			-0.21 (-0.26 to -0.16)			0.59 (-0.98 to 2.2)			0.00 (0.00 to 0.01)			-0.30 (-0.38 to -0.22)			-0.42 (-0.53 to -0.32)			0.05 (0.01 to 0.08)											
subj_clust.sd__(Intercept)	3.4 (NA to NA)			0.00 (NA to NA)			2.5 (NA to NA)			0.02 (NA to NA)			0.04 (NA to NA)			1.8 (NA to NA)			0.00 (NA to NA)			0.06 (NA to NA)			0.08 (NA to NA)			0.04 (NA to NA)											
Residual.sd__Observation	4.7 (NA to NA)			0.01 (NA to NA)			3.7 (NA to NA)			0.02 (NA to NA)			0.14 (NA to NA)			2.8 (NA to NA)			0.00 (NA to NA)			0.23 (NA to NA)			0.28 (NA to NA)			0.04 (NA to NA)											

[1] CI = Confidence Interval

[2] False discovery rate correction for multiple testing

Cluster:	13																																						
	APer COV			APwr			MLwr COV			MLwr			Stsp Dur			UDwr COV			UDwr			Stsnre Dur			GaitCycle Dur			Peak UpDown Vel											
Characteristic	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value	Beta (95% CI)	p-value	q-value									
(Intercept)	19 (17 to 21)	<0.001	<0.001	0.07 (0.07 to 0.08)	<0.001	<0.001	11 (9.1 to 13)	<0.001	<0.001	0.13 (0.12 to 0.14)	<0.001	<0.001	1.4 (1.3 to 1.4)	<0.001	<0.001	22 (22 to 25)	<0.001	<0.001	0.01 (0.00 to 0.01)	<0.001	<0.001	2.0 (1.9 to 2.1)	<0.001	<0.001	2.5 (2.4 to 2.9)	<0.001	<0.001	0.00 (-0.02 to 0.02)	0.96	0.96								
speed_cond_sum	-5.8 (-6.8 to -4.8)	<0.001	<0.001	-0.02 (-0.04 to -0.02)	<0.001	<0.001	6.6 (4.8 to 8.3)	<0.001	<0.001	-0.08 (-0.09 to -0.08)	<0.001	<0.001	-0.76 (-0.84 to -0.68)	<0.001	<0.001	-16 (-18 to -15)	<0.001	<0.001	0.03 (0.02 to 0.03)	<0.001	<0.001	-1.3 (-1.4 to -1.2)	<0.001	<0.001	-1.5 (-1.7 to -1.4)	<0.001	<0.001	0.37 (0.36 to 0.39)	<0.001	<0.001								
group_clear		<0.001	<0.001		<0.001	<0.001		0.73	0.73		0.58	0.58		<0.001	<0.001		0.14	0.14		0.87	0.87		<0.001	<0.001		<0.001	<0.001		0.008	0.013								
H1000's																																							
H2000's	5.7 (2.2 to 9.3)			-0.01 (-0.02 to 0.00)			-0.66 (-3.8 to 2.5)			0.01 (-0.01 to 0.03)			-0.13 (-0.21 to -0.06)			1.5 (-0.43 to 3.3)			0.00 (0.00 to 0.00)			-0.17 (-0.29 to -0.05)			-0.27 (-0.42 to -0.12)			0.02 (-0.02 to 0.05)											
H3000's	10 (7.2 to 13)			-0.02 (-0.02 to -0.01)			-0.99 (-3.5 to 1.5)			0.01 (-0.01 to 0.02)			-0.24 (-0.30 to -0.18)			1.3 (-0.22 to 2.8)			0.00 (0.00 to 0.00)			-0.32 (-0.41 to -0.23)			-0.47 (-0.59 to -0.36)			0.04 (0.02 to 0.07)											
subj_clust.sd__(Intercept)	3.6 (NA to NA)			0.01 (NA to NA)			3.4 (NA to NA)			0.02 (NA to NA)			0.05 (NA to NA)			1.7 (NA to NA)			0.00 (NA to NA)			0.06 (N