Arbeidskrav 5

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```
library(tidyverse)
dat <- dxadata %>%
  select(participant:include, lean.left_leg, lean.right_leg) %>%
  pivot_longer(names_to = "leg",
               values_to = "lean.mass",
               cols = lean.left_leg:lean.right_leg) %>%
  mutate(leg = if_else(leg == "lean.left_leg", "L", "R"),
         sets = if_else(multiple == leg, "multiple", "single")) %>%
  select(participant, time, sets, sex, leg, lean.mass) %>%

  pivot_wider(names_from = time,
              values_from = lean.mass) %>%
  mutate(lbm.change = post - pre) %>%
  mutate(pre.mc = pre - mean(pre)) %>%
  mutate(prosentvis.endring = ((post - pre) / pre) * 100) %>%
  filter(!is.na(lbm.change)) %>%


  print()
```

```
## # A tibble: 78 x 9
##    participant sets  sex   leg     pre  post lbm.change  pre.mc prosentvis.endr~
##    <chr>       <chr> <chr> <chr> <dbl> <dbl>      <dbl>   <dbl>            <dbl>
##  1 FP28        mult~ fema~ L      7059  7273        214 -1658.            3.03
##  2 FP28        sing~ fema~ R      7104  7227        123 -1613.            1.73
##  3 FP40        sing~ fema~ L      7190  7192          2 -1527.            0.0278
##  4 FP40        mult~ fema~ R      7506  7437        -69 -1211.           -0.919
##  5 FP21        sing~ male  L     10281 10470        189  1564.            1.84
##  6 FP21        mult~ male  R     10200 10819        619  1483.            6.07
##  7 FP34        sing~ fema~ L      6014  6326        312 -2703.            5.19
##  8 FP34        mult~ fema~ R      6009  6405        396 -2708.            6.59
##  9 FP23        sing~ male  L      8242  8687        445  -475.            5.40
## 10 FP23        mult~ male  R      8685  8480       -205   -32.4          -2.36
## # ... with 68 more rows
```

```
dat %>%
  group_by(sets) %>%
  summarise(m = mean(prosentvis.endring),
            sd = sd(prosentvis.endring)) %>%

print()
```

```
## # A tibble: 2 x 3
##   sets         m    sd
##   <chr>    <dbl> <dbl>
## 1 multiple  3.32  4.39
## 2 single    2.04  3.71
```

```
library(lme4)
```

```
## Loading required package: Matrix
```

```
##
## Attaching package: 'Matrix'
```

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

```
library(lmerTest)
```

```
##
## Attaching package: 'lmerTest'
```

```
## The following object is masked from 'package:lme4':
##
##     lmer
```

```
## The following object is masked from 'package:stats':
##
##     step
```

```
m0 <- lm(post ~ pre + sex + sets, data = dat)
m1 <- lmerTest::lmer(post ~ pre + sets + (1|participant), data = dat)
```

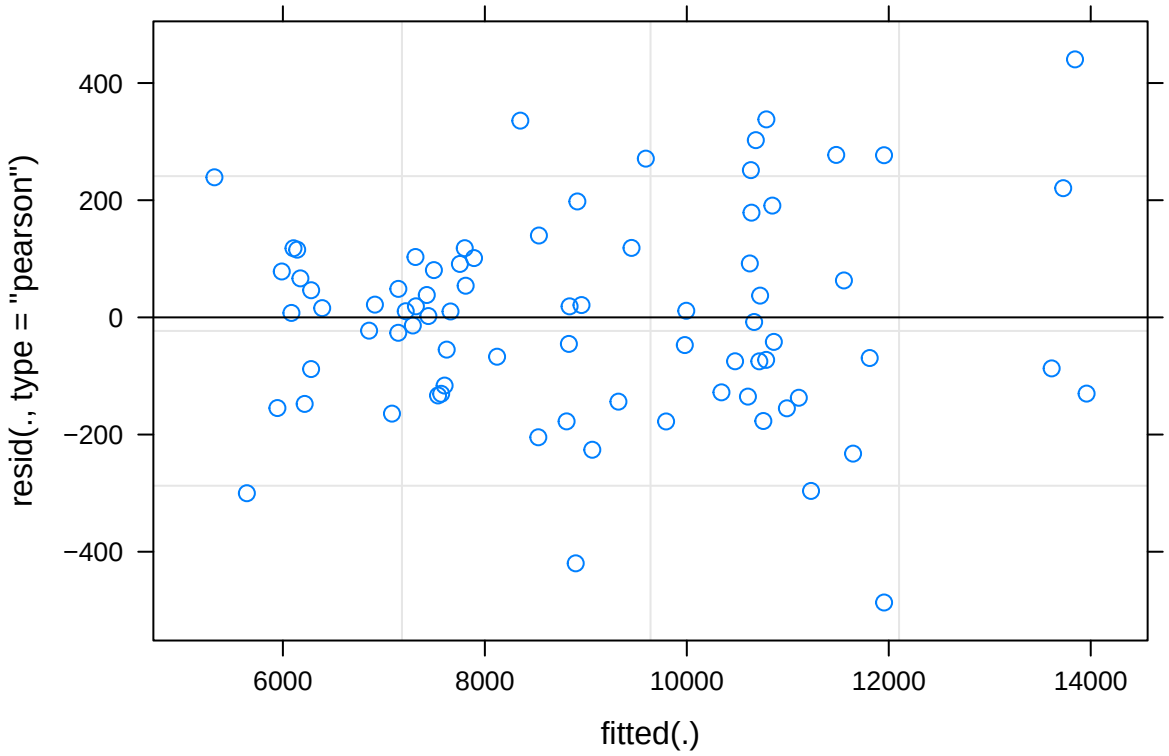
```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
m2 <- lme4::lmer(post ~ pre + sex + sets + (1|participant), data = dat)
```

```
## Warning: Some predictor variables are on very different scales: consider
## rescaling
```

```
plot(m2)
```




```
summary(m0)
```

```
##
## Call:
## lm(formula = post ~ pre + sex + sets, data = dat)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1383.20  -206.33     3.24   208.48  1004.52
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  210.05961  277.25343   0.758    0.451
## pre            1.00339    0.03768  26.629   <2e-16 ***
## sexmale      100.78105  156.25812   0.645    0.521
## setssingle  -114.55410   87.29173  -1.312    0.193
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 385.5 on 74 degrees of freedom
## Multiple R-squared:  0.9697, Adjusted R-squared:  0.9684
## F-statistic: 788.3 on 3 and 74 DF,  p-value: < 2.2e-16
```

```
summary(m1)
```

```
## Linear mixed model fit by REML. t-tests use Satterthwaite's method [
## lmerModLmerTest]
## Formula: post ~ pre + sets + (1 | participant)
##    Data: dat
##
## REML criterion at convergence: 1111.5
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -2.24819 -0.56823  0.01947  0.41175  1.91556
##
## Random effects:
##  Groups      Name        Variance Std.Dev.
##  participant (Intercept) 97224    311.8
##  Residual                51703    227.4
## Number of obs: 78, groups:  participant, 39
##
## Fixed effects:
##               Estimate Std. Error         df t value Pr(>|t|)
## (Intercept)  145.40330  244.28568   38.43366   0.595   0.5552
## pre            1.01638    0.02698   37.63886  37.669   <2e-16 ***
## setssingle  -114.61404   51.49202   37.77695  -2.226   0.0321 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Correlation of Fixed Effects:
##            (Intr) pre
## pre        -0.967
## setssingle -0.103 -0.002
## fit warnings:
## Some predictor variables are on very different scales: consider rescaling
```

```
summary(m2)
```

```
## Linear mixed model fit by REML ['lmerMod']
## Formula: post ~ pre + sex + sets + (1 | participant)
##    Data: dat
##
## REML criterion at convergence: 1098.3
##
## Scaled residuals:
##      Min       1Q   Median       3Q      Max
## -2.16463 -0.57619  0.03941  0.44008  1.95883
##
## Random effects:
##  Groups      Name        Variance Std.Dev.
##  participant (Intercept) 101459   318.5
##  Residual                 50542   224.8
## Number of obs: 78, groups:  participant, 39
##
## Fixed effects:
##               Estimate Std. Error t value
## (Intercept)  375.74770  353.43714   1.063
## pre            0.98000    0.04848  20.215
```

```
## sexmale      181.21652  201.99100   0.897
## setssingle  -114.44615   50.91098  -2.248
##
## Correlation of Fixed Effects:
##            (Intr) pre    sexmal
## pre        -0.972
## sexmale     0.713 -0.825
## setssingle -0.068 -0.004  0.004
## fit warnings:
## Some predictor variables are on very different scales: consider rescaling
```

```
confint(m2)
```

```
## Computing profile confidence intervals ...
```

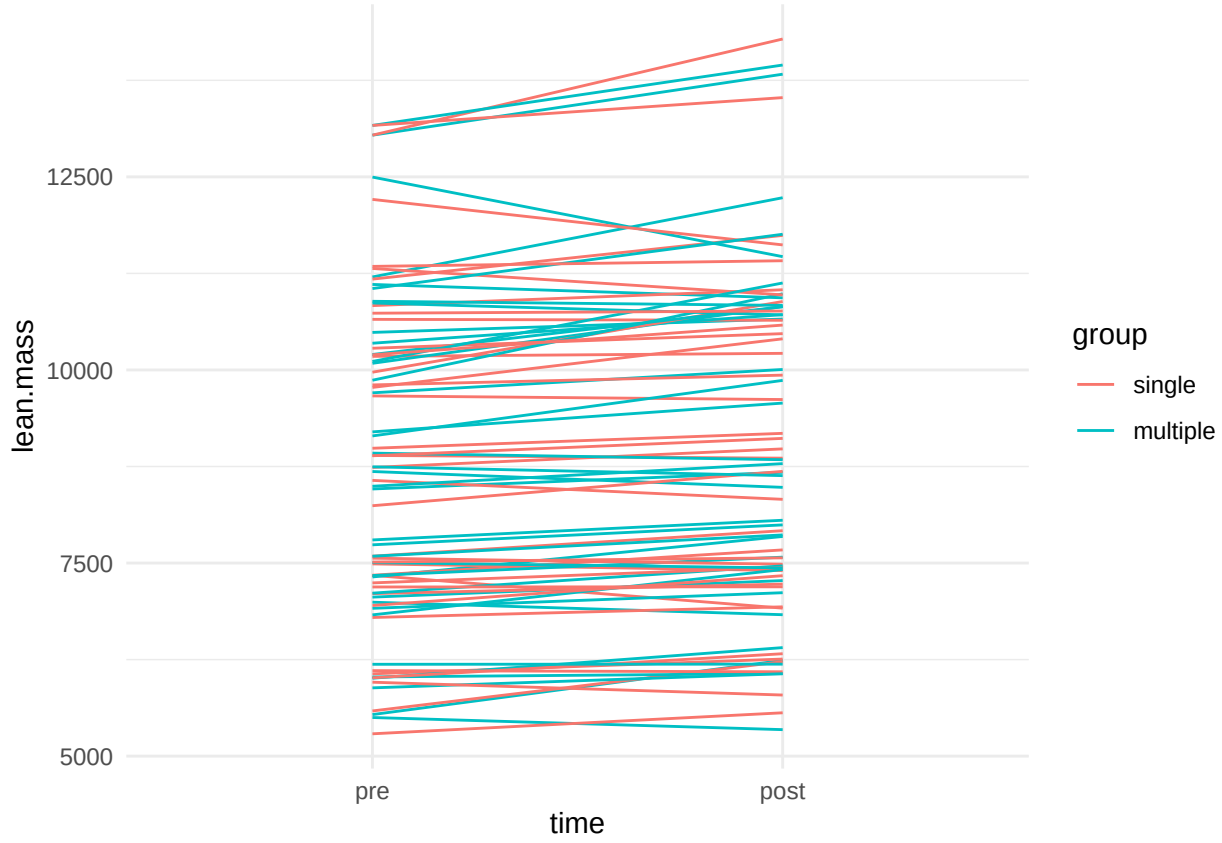
```
##                    2.5 %      97.5 %
## .sig01       223.4660349  407.611102
## .sigma       180.0741108  282.474938
## (Intercept) -309.7456948 1079.032810
## pre            0.8833748    1.074071
## sexmale     -209.2788314  580.751493
## setssingle  -215.4777151  -13.452514
```

```
modeldat <- dxadata %>%
  select(participant:include, lean.left_leg, lean.right_leg) %>%
  pivot_longer(names_to = "leg",
               values_to = "lean.mass",
               cols = lean.left_leg:lean.right_leg) %>%
   mutate(leg = if_else(leg == "lean.left_leg", "L", "R"),
          sets = if_else(multiple == leg, "multiple", "single")) %>%
  select(participant, time, sets, sex, leg, lean.mass) %>%
  group_by(participant) %>%
  mutate(n = n(), group = factor(sets, levels = c("single", "multiple")), time = factor(time, levels = c

  print()
```

```
## # A tibble: 160 x 8
## # Groups:   participant [41]
##    participant time  sets     sex    leg   lean.mass     n group
##    <chr>       <fct> <chr>    <chr>  <chr>     <dbl> <int> <fct>
##  1 FP28        pre   multiple female L          7059     4 multiple
##  2 FP28        pre   single   female R          7104     4 single
##  3 FP40        pre   single   female L          7190     4 single
##  4 FP40        pre   multiple female R          7506     4 multiple
##  5 FP21        pre   single   male   L         10281     4 single
##  6 FP21        pre   multiple male   R         10200     4 multiple
##  7 FP34        pre   single   female L          6014     4 single
##  8 FP34        pre   multiple female R          6009     4 multiple
##  9 FP23        pre   single   male   L          8242     4 single
## 10 FP23        pre   multiple male   R          8685     4 multiple
## # ... with 150 more rows
```

```
modeldat %>%
 ggplot(aes(time, lean.mass, group = paste(participant, group), color = group)) + geom_line() + theme_mi
```




```
styrke1 <- strengthvolume %>%
  filter(!is.na(load)) %>%
  group_by(exercise) %>%
  mutate(scaled.load = load / max(load, na.rm = TRUE)) %>%
  group_by(participant, time, sex, sets) %>%
  summarise(combined.load = mean(scaled.load, na.rm = TRUE)) %>%
  ungroup() %>%


  pivot_wider(names_from = time,
              values_from = combined.load) %>%
  mutate(prosentvis.endring = ((post - pre) / pre) * 100) %>%

  print()
```

```
## `summarise()` has grouped output by 'participant', 'time', 'sex'. You can override using the `.groups
```

```
## # A tibble: 78 x 10
##    participant sex    sets      post   pre session1 week2 week5 week9
##    <chr>       <chr>  <chr>    <dbl> <dbl>    <dbl> <dbl> <dbl> <dbl>
##  1 FP1         male   multiple 0.696 0.560    0.541 0.572 0.626 0.715
```

```
##  2 FP1         male   single   0.687 0.603    0.628 0.674 0.693 0.722
##  3 FP11        male   multiple 0.776 0.604    0.594 0.711 0.772 0.737
##  4 FP11        male   single   0.708 0.568    0.570 0.637 0.693 0.644
##  5 FP12        female multiple 0.757 0.601    0.627 0.652 0.637 0.715
##  6 FP12        female single   0.729 0.559    0.600 0.634 0.597 0.680
##  7 FP13        male   multiple 0.732 0.512    0.528 0.600 0.660 0.698
##  8 FP13        male   single   0.757 0.531    0.541 0.597 0.673 0.711
##  9 FP14        female multiple 0.518 0.364    0.324 0.440 0.448 0.511
## 10 FP14        female single   0.490 0.395    0.382 0.431 0.445 0.470
## # ... with 68 more rows, and 1 more variable: prosentvis.endring <dbl>
```

```
styrke1 %>%
  filter(!is.na(post)) %>%
  group_by(sets) %>%
  summarise(m = mean(prosentvis.endring),
            sd = sd(prosentvis.endring)) %>%

print()
```

```
## # A tibble: 2 x 3
##   sets         m    sd
##   <chr>    <dbl> <dbl>
## 1 multiple  31.0  14.2
## 2 single    24.5  12.9
```

```
styrkemodell <- strengthvolume %>%
  group_by(exercise) %>%
  mutate(scaled.load = load / max(load, na.rm = TRUE)) %>%
  group_by(participant, time, sex, sets) %>%
  summarise(combined.load = mean(scaled.load, na.rm = TRUE)) %>%
  ungroup() %>%

  print()
```

```
## `summarise()` has grouped output by 'participant', 'time', 'sex'. You can override using the `.groups
```

```
## # A tibble: 468 x 5
##    participant time     sex   sets     combined.load
##    <chr>       <chr>    <chr> <chr>            <dbl>
##  1 FP1         post     male  multiple         0.696
##  2 FP1         post     male  single           0.687
##  3 FP1         pre      male  multiple         0.560
##  4 FP1         pre      male  single           0.603
##  5 FP1         session1 male  multiple         0.541
##  6 FP1         session1 male  single           0.628
##  7 FP1         week2    male  multiple         0.572
##  8 FP1         week2    male  single           0.674
##  9 FP1         week5    male  multiple         0.626
## 10 FP1         week5    male  single           0.693
## # ... with 458 more rows
```

```r
styrkemodell %>%
  filter(!is.na(combined.load), time == factor(time, levels = c("pre", "post"))) %>%
  mutate(time = factor(time, levels = c("pre", "post")),
         group = factor(sets, levels = c("single", "multiple"))) %>%
 ggplot(aes(time, combined.load, group = paste(participant, sets), color = sets)) + geom_line() + theme

print()
```

```
## List of 93
##  $ line                       :List of 6
##   ..$ colour       : chr "black"
##   ..$ size         : num 0.5
##   ..$ linetype     : num 1
##   ..$ lineend      : chr "butt"
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ rect                       :List of 5
##   ..$ fill         : chr "white"
##   ..$ colour       : chr "black"
##   ..$ size         : num 0.5
##   ..$ linetype     : num 1
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ text                       :List of 11
##   ..$ family       : chr ""
##   ..$ face         : chr "plain"
##   ..$ colour       : chr "black"
##   ..$ size         : num 11
##   ..$ hjust        : num 0.5
##   ..$ vjust        : num 0.5
##   ..$ angle        : num 0
##   ..$ lineheight   : num 0.9
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ title                      : NULL
##  $ aspect.ratio               : NULL
##  $ axis.title                 : NULL
##  $ axis.title.x               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 2.75points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
```

```
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.x.top          :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 2.75points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.x.bottom       : NULL
##  $ axis.title.y              :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : num 90
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 2.75points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.y.left         : NULL
##  $ axis.title.y.right        :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : num -90
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 2.75points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text                 :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : chr "grey30"
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
```

```
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 2.2points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x.top           :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 2.2points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x.bottom        : NULL
##  $ axis.text.y               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 1
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 2.2points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.y.left          : NULL
##  $ axis.text.y.right         :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
```

```
##   ..$ hjust        : num 0
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 2.2points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.ticks                : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ axis.ticks.x              : NULL
##  $ axis.ticks.x.top          : NULL
##  $ axis.ticks.x.bottom       : NULL
##  $ axis.ticks.y              : NULL
##  $ axis.ticks.y.left         : NULL
##  $ axis.ticks.y.right        : NULL
##  $ axis.ticks.length         : 'simpleUnit' num 2.75points
##   ..- attr(*, "unit")= int 8
##  $ axis.ticks.length.x       : NULL
##  $ axis.ticks.length.x.top   : NULL
##  $ axis.ticks.length.x.bottom: NULL
##  $ axis.ticks.length.y       : NULL
##  $ axis.ticks.length.y.left  : NULL
##  $ axis.ticks.length.y.right : NULL
##  $ axis.line                 : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ axis.line.x               : NULL
##  $ axis.line.x.top           : NULL
##  $ axis.line.x.bottom        : NULL
##  $ axis.line.y               : NULL
##  $ axis.line.y.left          : NULL
##  $ axis.line.y.right         : NULL
##  $ legend.background         : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ legend.margin             : 'margin' num [1:4] 5.5points 5.5points 5.5points 5.5points
##   ..- attr(*, "unit")= int 8
##  $ legend.spacing            : 'simpleUnit' num 11points
##   ..- attr(*, "unit")= int 8
##  $ legend.spacing.x          : NULL
##  $ legend.spacing.y          : NULL
##  $ legend.key                : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ legend.key.size           : 'simpleUnit' num 1.2lines
##   ..- attr(*, "unit")= int 3
##  $ legend.key.height         : NULL
##  $ legend.key.width          : NULL
##  $ legend.text               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
```

```
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ legend.text.align         : NULL
##  $ legend.title              :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ legend.title.align        : NULL
##  $ legend.position           : chr "right"
##  $ legend.direction          : NULL
##  $ legend.justification      : chr "center"
##  $ legend.box                : NULL
##  $ legend.box.just           : NULL
##  $ legend.box.margin         : 'margin' num [1:4] 0cm 0cm 0cm 0cm
##   ..- attr(*, "unit")= int 1
##  $ legend.box.background     : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ legend.box.spacing        : 'simpleUnit' num 11points
##   ..- attr(*, "unit")= int 8
##  $ panel.background          : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ panel.border              : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ panel.spacing             : 'simpleUnit' num 5.5points
##   ..- attr(*, "unit")= int 8
##  $ panel.spacing.x           : NULL
##  $ panel.spacing.y           : NULL
##  $ panel.grid                :List of 6
##   ..$ colour       : chr "grey92"
##   ..$ size         : NULL
##   ..$ linetype     : NULL
##   ..$ lineend      : NULL
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ panel.grid.major          : NULL
##  $ panel.grid.minor          :List of 6
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 0.5
##   ..$ linetype     : NULL
##   ..$ lineend      : NULL
```

```
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ panel.grid.major.x        : NULL
##  $ panel.grid.major.y        : NULL
##  $ panel.grid.minor.x        : NULL
##  $ panel.grid.minor.y        : NULL
##  $ panel.ontop               : logi FALSE
##  $ plot.background           : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ plot.title                :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 1.2
##   ..$ hjust        : num 0
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 5.5points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.title.position       : chr "panel"
##  $ plot.subtitle             :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 5.5points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.caption              :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : num 1
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 5.5points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.caption.position     : chr "panel"
```

```
##  $ plot.tag                  :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 1.2
##   ..$ hjust        : num 0.5
##   ..$ vjust        : num 0.5
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.tag.position         : chr "topleft"
##  $ plot.margin               : 'margin' num [1:4] 5.5points 5.5points 5.5points 5.5points
##   ..- attr(*, "unit")= int 8
##  $ strip.background          : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ strip.background.x        : NULL
##  $ strip.background.y        : NULL
##  $ strip.placement           : chr "inside"
##  $ strip.text                :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : chr "grey10"
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 4.4points 4.4points 4.4points 4.4points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ strip.text.x              : NULL
##  $ strip.text.y              :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : num -90
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ strip.switch.pad.grid     : 'simpleUnit' num 2.75points
##   ..- attr(*, "unit")= int 8
##  $ strip.switch.pad.wrap     : 'simpleUnit' num 2.75points
##   ..- attr(*, "unit")= int 8
##  $ strip.text.y.left         :List of 11
```

```
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : num 90
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  - attr(*, "class")= chr [1:2] "theme" "gg"
##  - attr(*, "complete")= logi TRUE
##  - attr(*, "validate")= logi TRUE
```